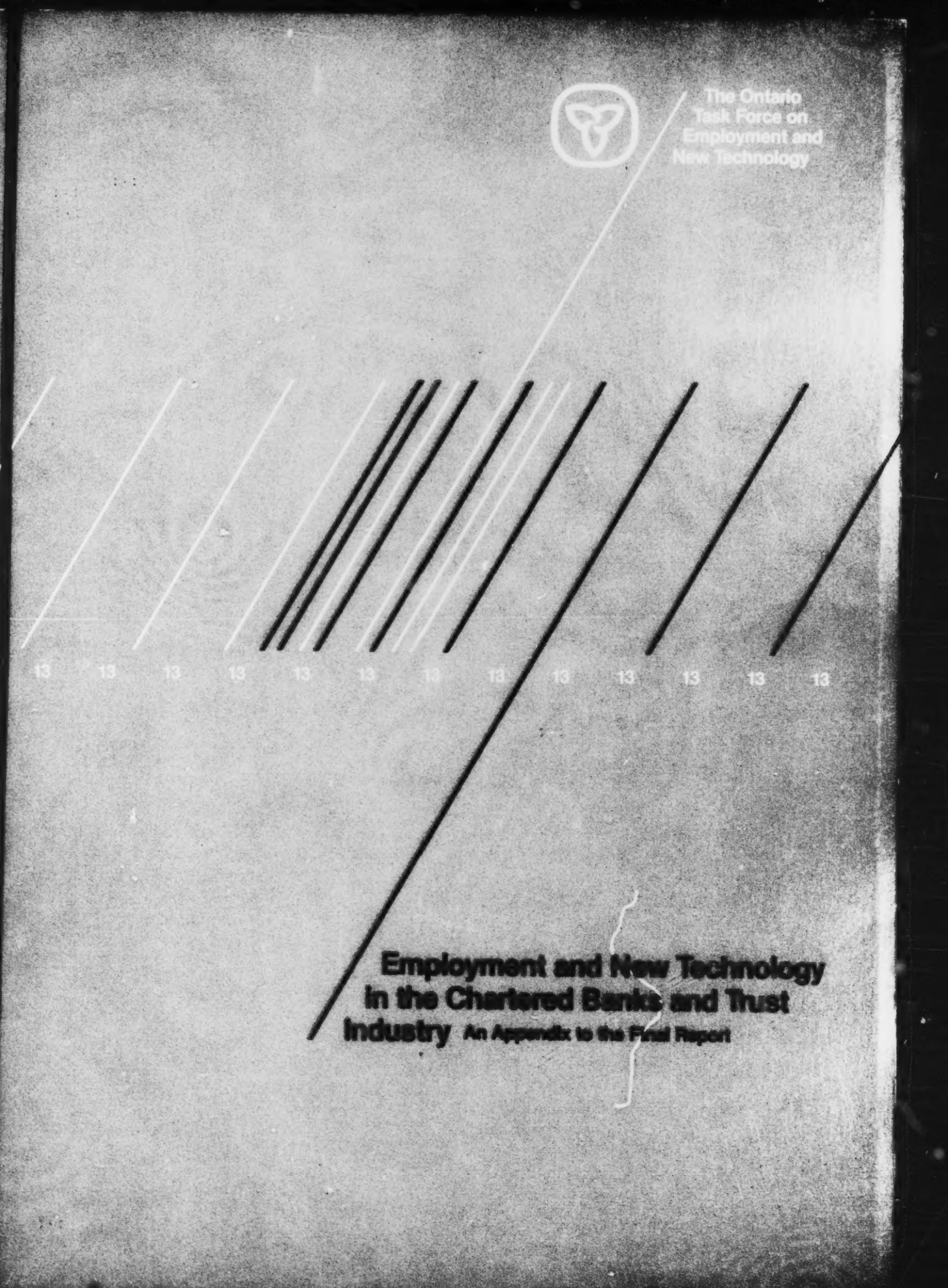


# Employment and New Technology in the Chartered Banks and Trust Industry

An Appendix to the Final Report

86-03660/

ONTARIO TASK FORCE ON EMPLOYMENT AND NEW TECHNOLOGY

## Co-Chairmen of the Task Force

WILLIAM B. BOGGS
Chairman and President, The de Havilland Aircraft of Canada Ltd.

ROBERT WHITE
Director for Canada, United Auto Workers Union

## Members of the Task Force

RALPH BARFORD
Chairman, Valleydene Corporation Ltd.

JALYNN BENNETT
Investment Vice-President, The Manufacturers Life Insurance Co.

LUCIE NICHOLSON
President, Ontario Division, Canadian Union of Public Employees

FRED POMEROY
President, Communications Workers of Canada

THOMAS ARMSTRONG
Deputy Minister, Ontario Ministry of Labour

BENSON WILSON
Chairman, Ontario Manpower Commission

## Staff

Richard Brown, Research Director

Stanley But

Hildegard Martens

# APPENDIX 13

## EMPLOYMENT AND NEW TECHNOLOGY

## IN THE CHARTERED BANKS AND TRUST INDUSTRY

This Appendix contains a report prepared for the Ontario Task Force on Employment and New Technology. The topic was approved in advance by the Task Force. At the conclusion of the study, the Task Force had the opportunity to review the report, but its release does not necessarily imply endorsement of the results by the Task Force or its individual members.

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## FOREWORD

The Ontario Task Force on Employment and New Technology, a joint labour-management group, was established in May, 1984, "to consider and report on the manpower and employment implications of new technologies as the same may be introduced and applied in Ontario during the next decade and the extent and nature thereof."

To inform its discussions, the Task Force established a research agenda designed to gather information on employment and technological change from a wide variety of sources. The research agenda contained projects which gathered information of a historical nature, and projects with a future orientation which were designed to gather information describing likely occupational and employment implications associated with technological change in the 1985-1995 period.

The Appendices to the Final Report of the Ontario Task Force on Employment and New Technology contain reports of these research projects. A complete list of these Appendices may be found at the end of this document.

Among the Appendices are reports of a series of studies to assess the extent and nature of the employment implications of new technology in selected industries in Ontario. Appendix 3 describes the process by which the industries were selected, and contains the studies' terms of reference which called for particular attention to selected new technologies and occupational groups. Appendices 4-18 contain reports of these industry studies, which were conducted by Currie, Coopers & Lybrand, management consultants.

This particular appendix contains a report of the study on the Chartered Banks and Trust Industry.

Dr. Richard L. E. Brown, P.Eng.
Research Director

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The Ontario Manpower Commission.

The Ontario Ministry of Labour.

The Task Force would like to thank the staff of Currie, Coopers & Lybrand, particularly Maureen Farrow and Victor Rocine, whose assistance in the conduct of this study is greatly appreciated.

Special thanks are due to all industry experts and survey respondents who provided information for this study.

The study, "Technological Change in Banking and its Effect on Employment Patterns, 1965 to Present" by Dr. Hildegard Martens was used as a source document in the preparation of this report.

# EMPLOYMENT AND NEW TECHNOLOGY IN THE CHARTERED BANKS AND TRUST INDUSTRY

A Report Prepared by Currie, Coopers & Lybrand
for the Consideration of the Ontario Task Force
on Employment and New Technology

July 1985

Submitted By: Maureen Farrow
Judith Maxwell

Currie, Coopers
& Lybrand
Management
Consultants

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# EMPLOYMENT AND NEW TECHNOLOGY IN THE CHARTERED BANKS AND TRUST INDUSTRY

## PART I - INTRODUCTION AND METHODOLOGY

### 1.0 INTRODUCTION

This report is one of a series of industry reports which summarize the findings of a major research project[1] undertaken for the Ontario Task Force on Employment and New Technology. Each report includes a historical analysis and an outlook to 1995 for the industry, and a review of the anticipated impacts of new technology on employment.

### 1.1 Structure of This Report

This report presents the study findings for Ontario's Chartered Banks and Trust Industry (SIC 701)[2]. Banks are discussed separately under Section I followed by Trusts, under Section II. The report includes four parts.

- The first part (Chapter 1.0) is the Introduction which includes a description of the approach and methodology.

- The second part (Chapter 2.0) is a Historical Analysis for the industry from 1971 to 1984 which provides background and a perspective on the industry's historical development.

- The third part (Chapters 3.0 to 7.0) discusses the results of the survey of firms in the industry and incorporates the interview findings with industry experts. These chapters cover:

  - a review of recent and anticipated technology adoptions,

[1] Manpower and Employment Implications of New Technologies in Selected Industries in Ontario to 1995. The terms of reference of this assignment can be found in Appendix 3 to the Task Force's final report.

[2] 1970, Standard Industrial Classification (SIC), Statistics Canada.

- the outlook for the industry to 1995, including expected output and employment levels,

- effects on employment of new technology such as anticipated occupational shifts and changes in required skills,

- a review of the labour relations environment as it relates to new technology, and

- observations on planning efforts for technological change in the industry.

- Part four of the report includes various appendices that support the text of individual chapters.

## 1.2 Study Approach

The study approach selected incorporates the following research techniques:

- analysis of published statistics and reports on the industry, augmented by the working knowledge of industry specialists within Currie, Coopers & Lybrand,

- in-depth interviews with management and labour experts in the industry, conducted at various stages in the project, using structured interview guides, and

- an industry survey.

The reasons for the choice of these techniques are explained below.

### 1.2.1 Historical Analysis

The purpose of the historical analysis was to provide an informed perspective on the industry from which to view future trends. The historical analysis covers: the economic environment, competitive factors, output and employment patterns, productivity, technology adoption and the industrial relations environment. In order to permit cross industry analysis, consistent indicators and data sources were used.

### 1.2.2 Expert Interviews

At various stages in the project, a series of in-depth interviews were conducted with industry leaders, industry associations and union representatives. These experts have a broad understanding of the industry in terms of both its historical development and its future outlook. Their input assisted in the preparation of the historical analysis and in the survey design, and facilitated a clearer interpretation of the survey results.

### 1.2.3 Sample Survey of Firms

The following describes the key features of the survey.

Ontario firms in the Chartered Banks and Trust Industry were identified.[1] This group of firms with fifty (50) or

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[1] The source for banks was the Canadian Bankers Association. Through a telephone survey, banks with 50 or more employees in Ontario were identified.

The source for trust companies was the Report of the Registrar of Business of 1981, Loan and Trust Corporations, 85th Report, Ontario Ministry of Consumer and Commercial Relations. Through a telephone survey, trust companies with 50 or more employees in Ontario were identified.

more employees was the base for selecting a sample of firms for the survey. Employment in these firms is estimated[1] to include 94 percent of the 64,200 employees working in banks and 95 percent of the 20,000 employees working in trust companies in Ontario.

A representative, random sample of firms, stratified by employment size categories (see Appendix A), was chosen from the sample frame. Tables 1 and 1A show the number of firms in the sample frame, by size. The senior executive officer of each firm was identified and a structured questionnaire was sent to this individual. A copy of the survey questionnaire is attached as Appendix B together with the number of responses by question.

Consultants provided ongoing assistance to respondents, both on the telephone and in person, to complete the questionnaires. The questionnaire survey process generally ended with a personal interview. The number of firms who participated in the sample survey are shown in the tables, below.

TABLE 1: CHARTERED BANKS SIC 701

| Firms by Employment Size | Number of Firms and Unions Responding By Firm Employment Size: Firms | Unions | Firms in Sample Frame (1) |
|---|---|---|---|
| Small (50-199) | 3 | | 7 |
| Medium (200-999) | 2 | | 4 |
| Large (1000+) | 3 | | 5 |
| Total Firms | 8 | 0 | 16 |

(1) SOURCE: See footnote, page 3.

1 Estimate based on expert interviews within the industry.

TABLE 1A: TRUST COMPANIES SIC 701

Number of Firms and Unions Responding
By Firm Employment Size

| Firms by Employment Size | Firms | Unions | Firms in Sample Frame (1) |
|---|---|---|---|
| Small (50-199) | 2 | | 11 |
| Medium (200-999) | 2 | | 6 |
| Large (1000+) | 2 | | 5 |
| Total Firms | 6 | 0 | 22 |

(1) SOURCE: See footnote, page 3.

In most cases, several participants in each organization contributed to the completion of a questionnaire. An average of 2.4 participants contributed for the banks and 2.7 participants to a trust questionnaire. The banks' principal participants had an average of 14 years' experience with their firms and 23 years in the industry and the trust companies' principal participants had an average of 5 years experience with their firms and 9 years in the industry.

The sample survey results have been weighted up to the number of firms in the sample frame. That is, the survey results reported herein refer to the weighted survey results and are, therefore, representative of firms with twenty or more employees in the Chartered Banks and Trust Industry (SIC 701) in Ontario. Reliability of the sample is estimated at 95 percent, with a 5 percent allowable error for the Chartered Banks and 90 percent with a 15 percent allowable error for Trust Companies. See Appendix C for an explanation of the sample reliability calculation method.

Readers should be cautioned about the nature and reliability of the sample survey results. The questionnaire included a set of questions asking respondents about the future (i.e., five and ten years ahead) from a particular point in time. The results are, therefore, a representative sample of views about, and expectations for, the future and should not be viewed as what will necessarily take place. The survey provides a useful perspective from which to better understand how the industry perceives the future of new technology adoption and its anticipated impacts on employment.

## 1.3 Introduction to SIC 701

SIC 701, Banks and other deposit accepting establishments, actually includes three groups of financial institutions that perform overlapping but nonetheless specialized functions.

- The banks create deposit facilities, transfer deposit funds to other uses and provide commercial credit facilities. The 13 Schedule A banks offer both wholesale and retail services through branches from coast to coast and they operate in both short and long term markets. They also have extensive foreign operations. Most of them are Canadian owned. The 58 Schedule B banks offer wholesale banking services. They are mostly Canadian operations of foreign banks.[1] This report will concentrate on the Schedule A banks because they contribute the greatest to employment for SIC 701 in Ontario.

- The trust and loan companies to be discussed in Section II of this report offer some banking services and they also have the unique responsibility for fiduciary or trust services.

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[1] At June 30, 1984, the 58 Schedule B banks had Canadian assets of $19.3 billion and employed between 3,000 and 4,000 people. They provided mainly wholesale and merchant banking services to Canadian industry. Their share of the market is restricted to 16 percent of the Canadian market (measured by assets). This was increased from 8 percent in early 1984.

In their fiduciary role, the trust companies administer estates, trusts and agencies that they do not own outright, but over which they have varying degrees of authority conferred by the owners. In their banking services, the trust and loan companies create deposit facilities and transfer those deposits mainly into the mortgage market. (Mortgage loan companies specialize in this latter function). Trust and loan companies offer mainly retail services and until recently have concentrated on medium to long term financing.

- Credit unions and caisses populaires which are not covered in this report, also create deposit facilities and serve mainly the small individual saver. These institutions play a stronger role in Quebec and the western provinces than they do in Ontario. Credit unions are autonomous organizations owned and controlled by their members. Membership is available through the purchase of a share, with democratic control achieved by allotting one vote to each member, regardless of the number of shares held. Most credit unions are affiliated with a central organization.

As mentioned, this report will discuss banks, and trust and loan companies, separately. Section I of the report deals with the banks. They are the largest institutions and offer the most comprehensive range of services.

The next chapter of the report discusses the historical analysis for banks and subsequent chapters review the results of the sample survey and expert consultation which discuss the anticipated trends for the period 1985 to 1995.

Section II dealing with the trust and loan companies, follows the same sequence, from historical analysis through to anticipated trends, as the format followed for banks.

## SECTION I - BANKS

## PART II - HISTORICAL TRENDS 1971-1984

### 2.0 INTRODUCTION

This section of the report provides a historical analysis of trends in banking.

There are 13 Schedule A banks in Canada. Five of them are large - each with assets in excess of $40 billion - and these five account for 85.3 percent of the total assets of the nine largest banks. The 13 Schedule A banks have 7,076 branches in Canada and 2,776 branches in Ontario. Ontario assets account for 42.5 percent of total domestic assets. The major banks are listed in Appendix D, Table D.1.

### 2.1 The Structure of the Industry

The primary role of the banks is that of financial intermediary. They accept deposits from individuals and organizations and channel the deposited money into loans and investments that fund economic activity in Canada and abroad. Some deposits are short term - they are payable on demand or at a specified date under one year. Other deposits are long term - with maturities over one year.

The banks' profits are generated by the spread between interest paid on deposits and interest earned on loans and investments. (Table D.2 shows the trends in bank revenues since 1977, the earliest date from which the Bank of Canada has published a consistent series of data.) During the years since 1971, the bank prime lending rate (charged on loans to the most credit-worthy businesses) has fluctuated between a low of 6.0 percent in 1972 and a high of 22.75 percent in August, 1981.

The banks try to adjust rates on deposits to keep them in line with the rates they can earn on investments. The spread between the two can vary from month to month. The banks must also try to "match" maturities - lending at longer term fixed rates only when they have access to funds provided at long term fixed rates. If they mismatch funds, by lending long term funds raised from short term deposits and then interest rates rise, they may end up by replacing the deposit at a higher rate than their fixed loan rate. Table D.2 shows the trend in interest income, interest expense and net interest income since 1977. Net interest income has increased in every year from $3.9 billion in 1977 to $8.9 billion in 1983, an average annual rate of increase of 14.9 percent. This dramatic increase was generated by higher volumes of transactions rather than by wider differentials between deposit and lending rates. Profitability of the banks has actually been under pressure. Net income as a percent of average assets has declined since the mid 1970's and has fallen below 0.50 since 1982.

This explains why the banks have been pressing ahead with investments in computerization which reduce the cost of banking transactions, and why they have been introducing banking services that generate fees. They have raised the fees charged for cashing cheques and other services, but they have also added a range of new financial services offered to individuals and corporations where the bank helps in managing their financial affairs. Examples are direct payroll payment systems and daily cash management to help business minimize deposits held in non-interest bearing accounts.

## 2.2 The Market Environment

The growth in bank assets and financial services is determined by four main factors: the growth and fluctuations in the economy; the changes in the powers of the banks through Bank Act revisions; competition with other financial institutions; and the scope of the banks' international operations. During the

1970's, all four factors favoured strong growth in the banking system, but all four will be less favourable in the 1980's.

### 2.2.1 Growth and Fluctuations in the Economy

The chartered banks play a central role in the financing of the economic system. Bank liquidity and interest rates are the key levers used by the Bank of Canada, the central bank, in regulating the pace of credit creation and the cost of credit. These variables in turn influence the rate of growth in output and the rate of increase in prices. The banks are, in a sense, the intermediary through which monetary policy affects consumers and corporations.

The growth in bank assets is, in turn, strongly influenced by the economy. During the 1970's, the economic environment was favourable to their growth.

- Consumer prices rose at an average rate of 9.0 percent from 1971 to 1981. Rapid increases in nominal values lead directly to rapid increases in the financing requirements of consumers, business and the housing market. Inflation has since decelerated to the 4 to 5 percent per year range and is expected to remain in single digits for the rest of the decade.

- Personal savings rates were high, averaging 9.0 percent of personal disposable income from 1971 to 1978. The average jumped to 13.8 percent during 1980 to 1983 and is expected to remain in the 10 to 12 percent range over the next 10 years.

- The baby boom generation hit the labour force and became independent consumers. This generated a remarkable spurt in consumer spending on durables

(cars, furniture) and on housing. Now, most baby boomers are equipped and are in a position to choose when they will replace or upgrade their stock of these goods. In addition, many families are managing their budgets more cautiously and are more reluctant to use consumer credit to finance major purchases.

- Business capital spending and inventory financing required large volumes of financing, and corporations turned increasingly to short term floating rate debt to finance their operations because equity and long term funding were expensive and internal sources of cash could not keep pace with financing requirements. Consequently, debt-equity ratios in the industrial sector rose dramatically and many borrowers ran into serious financial problems when interest rates soared in the 1979 to 1982 period. Since 1982, business has made a serious effort to pay off loans and capital spending has been financed mainly from internal funds.

- Monetary policy was highly stimulative from 1971 to 1975 and then applied only gradual restraint from 1975 to 1979. When the credit crunch came in October, 1979 and then again in 1980, the brakes were applied by the Federal Reserve Board in the United States. Now, monetary authorities in both countries are committed to policies of monetary discipline in order to avoid creating excess credit that would finance a resurgence in inflation. This will slow the growth in demand for credit.

Table D.3 provides a summary of these economic factors and shows the change in impact on the banking system over three time periods - 1971-1981, 1982-1984 and 1985-1995. Note that these forces were strongly positive in the first period, mostly negative to neutral in the second, and are scored neutral to positive in the period 1985-1995.

The inflation experience of the 1970's has left a strong imprint on the way the banks do business. As bank customers became more sensitive to interest rate movements, they shifted their funds into shorter term deposits. This made it difficult for the banks to find sources of long term funds to match the maturities of longer term loans. They therefore began to offer floating rate loans that could be adjusted for changes in interest rates; they also began to offer shorter term mortgage contracts. The net effect has been to transfer much of the interest rate risk to the borrower. (About half of the banks' business loans are written with floating rates, for example).

### 2.2.2 Changes in the Bank Act

The Bank Act is scheduled for revision every ten years. Each revision in recent times has opened up new powers for the banks and precipitated a surge in bank activity. The Bank Act Revision of 1967 allowed the banks to commit more funds to personal loans.[1] Personal lending soared in the 1970's, partly because consumer spending was bouyant, but partly also because the banks' personal loans provided a new vehicle for financing consumer purchases at somewhat lower rates than those charged by traditional instalment credit facilities. The Bank Act Revision of 1980 provided

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1 In addition, the reform of 1967 eliminated the interest rate ceiling on bank loan charges, eased the restrictions on mortgage lending, reduced the level of cash requirements, and broadened the bank's borrowing authority.

The net effect was to encourage the banks to compete aggressively for short term corporate funds and to channel new and existing deposits into interest-bearing accounts.

for the changes listed in the footnote below.[1] While these changes are very technical, they were intended to expose the banks to greater competition through making it easier for foreign banks to operate in Canada and for trust companies to convert to a bank charter. But they also made it easier for the banks to enter the business of "financing, leasing and factoring", and they forced the banks to offer customers easier terms on the early repayment of loans. The net effect of the 1980 revisions was to stimulate greater competition with other financial institutions.

### 2.2.3 Competition with other Financial Institutions

While the powers of the banks have gradually been increased, other financial institutions have been expanding the boundaries of their traditional role in the marketplace. In fact, the trust and loan companies and the life insurance companies are pushing hard for regulatory changes that would enable them to compete with the banks on a more even basis. The federal Department of Finance released a discussion paper in 1985, which would expose the banks to even more competition if its proposals were put into effect.[2]

1 The revisions to the 1980 Act included the following:
- Reduction in the burden of reserves kept at the Bank of Canada, and a new reserve requirement for foreign currency deposits held in Canada.
- New ground rules permitting foreign banks to operate in Canada.
- Expanded activities through subsidiaries such as allowing banks to enter financing, leasing and factoring.
- The requirement that the terms of most bank loans give the borrower the right to repay the loan at any time.
- Charter of new banks through letters patent issued by the minister with the approval of the governor-in-council instead of incorporation by a private bill in Parliament.

2 Department of Finance, The Regulation of Canadian Financial Institutions: Proposals for Discussion, April, 1985.

In the past, the regulatory framework for financial markets in Canada has been based on the principle of segregation of institutions into the four main "pillars" - banks, trust companies, life insurers and investment dealers. Each one conducts operations involving different notions of risk, pricing and leverage. The regulations are intended to ensure that the firms are solvent, and thus to defend the integrity of the financial system.

Over time, the strict boundaries between markets have been softened by legislative changes intended to encourage competition and thus to give the customer a better deal - more service at a lower cost. Trust companies were allowed to get into retail deposit-taking in competition with the banks, and life insurers were permitted to set up segregated funds to compete with performance-oriented savings vehicles.

The competition among financial institutions occurs across a broad spectrum of activities, but it is most easily illustrated by examining the distribution of personal savings deposits (Table D.4) and of mortgage loans outstanding (Table D.5). These are services offered by many different institutions.

Table D.4 shows that the banks' direct share of the personal savings dollar (adjusted to include mortgage affiliates) dropped to 27.1 percent in 1983, after fluctuating between 28.7 and 30.4 percent for the previous seven years. The other deposit accepting institutions also lost share. The two savings instruments that have gained share since 1976 have been the trusteed pension plans, which offer the extra attraction of tax deferral, and Canada Savings Bonds. More recently, new methods of marketing federal Treasury Bills have attracted considerable flows of funds from individual savers.

Overall, the banks have apparently lost part of their market share. As long as personal savings were growing quickly, this loss of share did not inhibit bank growth, but now that personal savings rates have stabilized in the 12 percent range, the banks may be constrained in periods of strong loan demand by their smaller share of personal savings.

The banks have been clear winners in the competition for market share in mortgage lending, partly because the Bank Act Revision of 1967 made it easier for them to compete in this market. Their market share (Table D.5) has risen from 14.3 percent in 1974 to 23.0 percent in 1982. Loans outstanding have increased from $2.3 billion to $29.8 billion during the same period. The banks have gained market share in a rapidly expanding market - total loans outstanding rose from $53.6 billion in 1974 to $137.9 billion in 1982. The institutions that lost market share were the trust and loan companies, life insurance companies and government housing agencies. One of the key advantages of the banks in this marketplace is the branch banking system, which makes a bank mortgage accessible to most Canadians. Another key advantage was the banks' advertising and marketing skills. However, it will not be possible to increase bank assets through mortgage lending in the 1980's at the same pace as in the 1970's because of the secular slowdown in Canada's housing needs. A large market for mortgages on existing housing will persist, but the pace of new house construction in the 1980's will slow due to slower population growth, especially in the 25 to 35 year old age group.

The other measure of bank competitiveness is the share of total assets of financial institutions shown in Table D.6. The banks have increased their share from 50.1 percent in 1971 to 58.6 percent in 1983. The 1983 share is down slightly from the peak of 59.9 percent set in

1982. The banks have gained their share at the expense of the sales finance and consumer loan companies (down almost 4 percentage points) and the life insurance companies (down almost 7 percentage points from 1971 to 1982). The trust and loan companies have held their own.

### 2.2.4 Growth in Foreign Assets

Foreign assets of the chartered banks increased tenfold from $14.5 billion in 1971 to $156.7 billion in 1983. This occurred because the Canadian banks are large, even in global banking terms. They were able to play a vigorous role in the rapid evolution of international financial markets during the 1970's, participating in new types of activity such as the Euro dollar and Euro Canadian markets, and competing for business in some of the rapidly growing markets in the Middle East and Latin America. In part, they were also serving the needs of their Canadian clients, many of whom became much more involved in exports and foreign investment. The big banks have a long history of international operations, especially in the Caribbean, but their activities took a quantum jump in the 1970's.

By October, 1983, the six largest banks had $24.9 billion in loans outstanding in developing countries (LDCs) in Latin America and the Caribbean.[1] Many of these loans had fallen into the "non-performing" category because the borrowers (mainly governments) had become overextended and could no longer pay the interest on the debt, let alone repay the principal. As the LDC debt problems mounted in 1981 and 1982, the banks began to accumulate large amounts of loans that paid no interest. There was growing concern that some would even default. As the six banks had total invested capital in October, 1983 of $12.6 billion[2],

1. A. Roy Palmer, Bunting, Quarterly Bank Review, April 1984.
2. Ibid.

default of half these debts would wipe out their equity base. The actual impact on the banks' operations has been much less severe. The Bank of Canada summary of their appropriations for contingencies shows that net loss experience increased from $329.5 million in 1977 to $2.9 billion in 1983. (Some of these losses involved domestic as well as foreign loans). However, the banks write off these losses on the basis of a five year moving average. These write-offs have increased from $307.4 million in 1977 to $1.7 billion in 1983[1].

This loss experience has had two effects on the banks. It has made them much more conservative in evaluating the risks associated with new loans (both domestic and foreign). It has also forced them to accept either loan write-offs, which reduces the capital base available as a foundation for writing new business, or loan rescheduling, which uses their potential profit. In addition, the federal Inspector General of Banks has introduced a regulation requiring the banks to provide greater loan loss reserves (equivalent to 10 to 15 percent of loans to troubled countries) by the end of 1986. Both these effects tend to inhibit the future growth in the banking system.

## 2.3 Industry Trends

Tables D.7 to D.10 and D.11 to D.14 present key indicators for the years 1971 to 1984.

### 2.3.1 Aggregate Output

The traditional measure of the size and growth of the banking system has been assets. However, as the banks have become more involved in providing financial services,

1. Bank of Canada Review, Table A5, February, 1984.

it is necessary to supplement the data on assets with some measure of the output of these services. In this section, we will present three measures of output.

- Gross domestic product at factor cost for SIC 701. This shows a combination of asset and service growth for all three types of deposit-taking institutions.

- Asset growth of the banks in Ontario, Canada and in total.

- Bank income from financial services in Canada.

Each measure of output will be presented in current and constant 1971 dollars and in the section on competitive position, the constant dollar data will be compared to the number of employees.

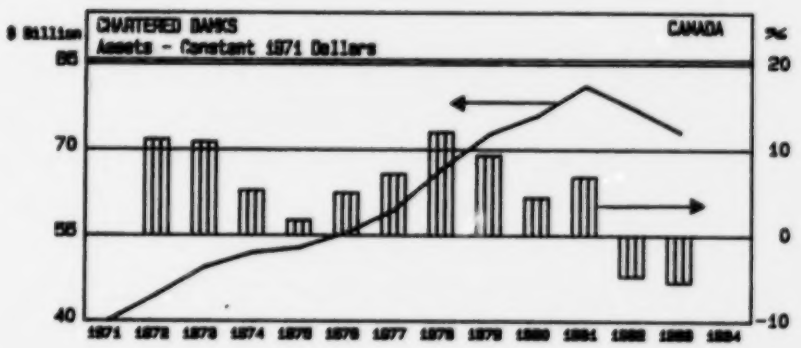
Tables D.7 to D.10 provide measures of aggregate output for banks and other deposit accepting institutions.

Gross domestic product in current dollars for SIC 701 increased from $1.3 billion in 1971 to $5.1 billion in 1982, an average annual rate of growth of 13.5 percent. Constant 1971 dollar gross domestic product (Table D.9) rose from $1.3 billion in 1971 to $2.4 billion in 1979, an average annual rate of 8.4 percent. The growth in output slowed abruptly in 1980, recovered in 1981 and then declined in 1982 and 1983. Constant dollar output in 1983 was $2.5 billion, up only 1.2 percent from 1979.

Total Canadian assets of the banking system increased from $40.0 billion in 1971 to $171.3 billion in 1980 (Table D.11), an average annual rate of increase of 17.6 percent. A change in accounting principles in 1981 makes the figure for total assets incompatible with earlier years, so we cannot calculate 1971 to 1981 rates of

change. Total Canadian assets then increased from $202.4 billion in 1981 to $211.9 billion in 1983, an average annual increase of only 2.3 percent. Assets in Ontario increased from $28.2 billion in 1974, the earliest year for which data is available to $68.4 billion in 1980, an average annual rate of 15.9 percent and from $84.9 billion in 1981 to $90.0 billion in 1983, an average gain of 3.0 percent. Ontario assets increased at a slightly slower rate than Canadian assets from 1874 to 1981, but they increased at a slightly faster rate in the early part of the 1980's. This can probably be explained by relative rates of growth in the Ontario and Canadian economies. Ontario lagged the national growth rate in the 1970's, when the western provinces were booming with resource activity, but Ontario led the recovery from the 1981 to 1982 recession.

EXHIBIT 1




Constant dollar Canadian assets increased from $40.0 billion in 1971 to $75.9 billion in 1980, an average rate of increase of 7.4 percent per year. (Nominal assets were deflated by the GNP implicit price deflator for Canada). The most rapid increases occurred in the early 1970's, and in 1978-1979. Constant dollar assets then declined in 1982 and 1983 from a peak of $81.0 billion in 1981 to

$72.9 billion in 1983. Constant dollar Ontario assets also declined in the early 1980's, but at a slower rate than the decline experienced in Canada.

The other measure of output - income from financial services rose from $892 million in 1977 to $1.8 billion in 1981, and then increased again in 1982 and 1983 to reach $2.3 billion in 1983. The average rate of increase was 19.5 percent from 1977 to 1981, and 13.3 percent from 1981 to 1983. In constant dollar terms income from financial services rose from $567 million in 1977 to $1,034 million in 1981, a gain of 16.2 percent per year. Income declined by 0.7 percent in 1982 to $1,027 million.

### 2.3.2 Competitive Position

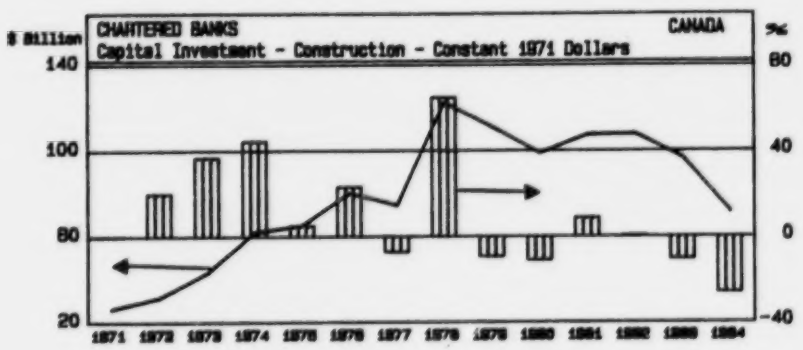
The competitive position of the banks in terms of market share was discussed in the section on market environment. Information on paid employment for banks and other deposit accepting institutions (SIC 701) is available only since 1977. Table D.9 shows constant dollar output per worker in Canada from 1977 to 1983. There is an erratic pattern of declines and gains in output per worker. The average annual rate of increase over the period 1977 to 1983 was 0.3 percent.

Table D.13 shows the trend in constant dollar bank assets per employee. They increased from $419,000 in 1971 to $512,000 in 1981. Bank assets per employee declined from 1974 to 1976, but then rose rapidly at the end of the decade, indicating that the banks were achieving rapid growth without adding new employees. Both assets and employees declined in 1982 and 1983, but assets declined more quickly than employees.

### 2.3.3 Capital Investment

Investment outlays by banks, trust and loan companies and credit unions in Canada increased from $57 million in 1971 to $414 million in 1981, an average annual rate of increase of 21.9 percent (Tables D.7 to D.10). Investment increased to $478.5 million in 1983 and then dropped to a planned level of $448.5 million in 1984. Spending in 1984 is anticipated to be only 8.3 percent higher than in 1981.

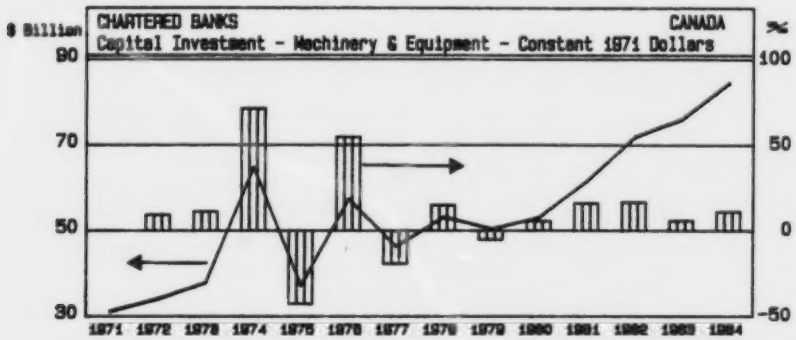
EXHIBIT 2




Investment in constant dollars increased from $57 million in 1971 to $169 million in 1981, an average annual rate of increase of 11.4 percent. Outlays increased in 1982, but then dropped in 1983 and 1984 to $156 million in 1984. Constant dollar construction outlays increased at an annual average rate of 24.7 percent from 1971 to 1978, when they reached a peak of $122 million. This surge of activity was probably associated with extensive new commitments to office buildings (many of which are located in downtown Toronto) to accommodate the growth in employment. After 1978, construction outlays declined both in Canada and in Ontario. The average rate of decline from 1978 to 1984 was 8.6 percent per year.

(Data for Ontario is available only from 1978 and the trends in Ontario are the same as for Canada. The chart shows the longer time series for Canada).

EXHIBIT 3



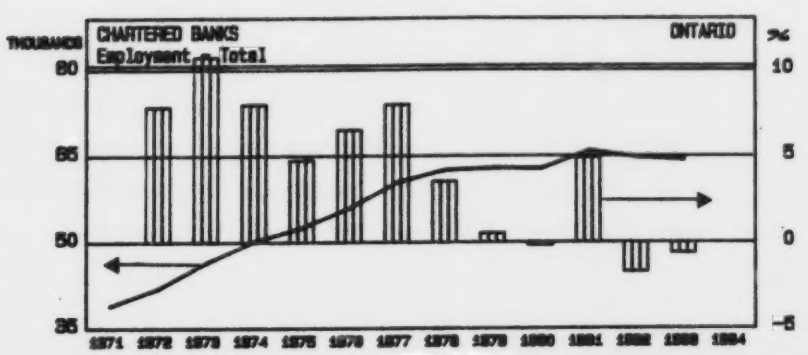

Constant dollar machinery and equipment spending followed a much more erratic pattern through the 1970's but has risen steadily since 1979 in both Canada and in Ontario. This expenditure is associated with the installation of on-line banking systems and more recently, automated banking machines.

### 2.3.4 Employment

The discussion of employment includes an analysis of aggregate trends and occupational changes.

- Aggregate Trends

EXHIBIT 4



Employment in chartered banks increased from 38,803 in 1971 to 65,731 in 1981, an average annual increase of 5.4 percent (see Tables D.13 and D.14). Employment increased rapidly from 1971 to 1977. The rate of increase slowed to 3.5 percent in 1978 and declined by 0.2 percent in 1980. The banks changed their method of reporting employment from monthly averages to month-end in 1979, so there is a break in the series at a crucial point in the evolution of employment. However, it seems that the slower growth that began to emerge in 1978 continued through 1979 and 1980. This was reversed with a good recovery in employment in 1981. However, the trend to slower growth resumed in 1982 and 1983 when employment dropped by 1.7 percent and 0.6 percent respectively. Employment in 1983 was 64,199, down 2.3 percent from 1981. Interviews indicate that most of the banks are now using attrition to reduce their staff because of slower growth in business lending and the introduction of automated banking machines.

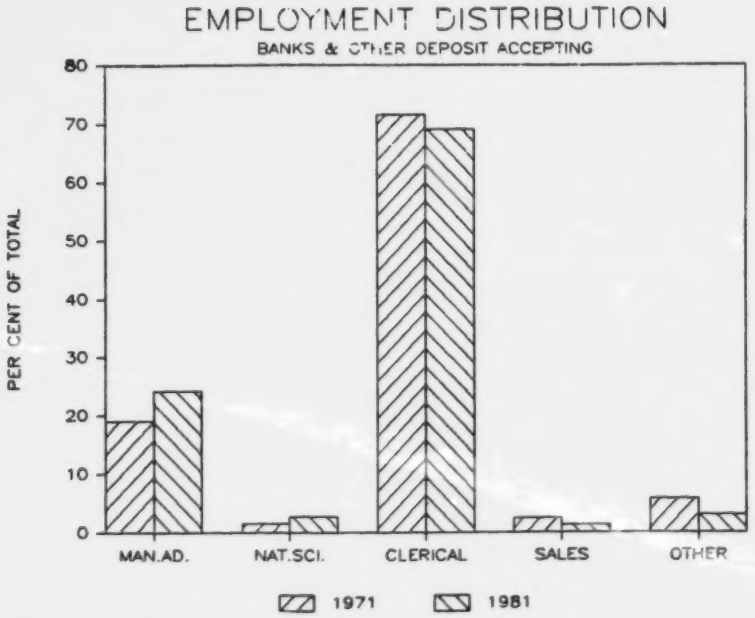
The figures for employment in Ontario show parallel trends to those in Canada, except in 1982 and 1983, when employment in Canada fell much more severely than in Ontario. This probably reflected the rationalization of bank branches in Quebec after the merger of the Banque Canadienne Nationale and the Banque Provinciale. By 1983, Ontario employees accounted for 43.3 percent of the national total, up from 40.4 percent in 1975. This probably reflected the move of some head office activity from Montreal to Toronto as well as the merger of the two Quebec banks.

The banks have significantly increased part-time employment since 1981. In 1984, they employed 22,300 part-time employees in Canada who performed the

equivalent of 10,976 full-time jobs. This full-time equivalence was up 57 percent from 1981 and up to 60 percent from 1975[1].

- Occupational Changes

EXHIBIT 5




Census data for the banking and trust industry - see Table D.16 - indicate that above average annual growth was experienced in the Managerial and Administrative group (9.0 percent) and in the Natural Sciences, Engineering and Mathematics group (13.1 percent). The above chart shows that Management and Administration had the greatest share increase of total employment from 19 percent in 1971 to over 24 percent in 1981. The Clerical group showed a stable average annual growth of 6.0 percent and the Sales group had a decline at an average annual rate of (0.6) percent. Both these groups reduced their share of total employment by 2.5 and 1.2 percent respectively over the 1971 to 1981 period, as shown in the above chart. The

1. Helen K. Sinclair, "Trends in Employment, Canada's Chartered Banks," Mimeo. Canadian Bankers' Association, May 31, 1984.

Other group accounted for 3 percent of total employment in 1981, and over a third of the employees occupied service-related positions.

An analysis for detailed occupations shows that the occupations with the fastest average annual growth rates, all above 13 percent, were financial managers, systems analysts and, electronic data-processing equipment operators. Together these three occupations accounted for 31 percent of the 43,920 new positions filled over the 1971 to 1981 period. Declines were observed in the occupations of clerical supervisors and the overall Sales group.

Female representation (Table D.17) increased from 68 percent in 1971 to 74 percent of the total work force in 1981. The largest increase in female representation occurred in jobs for supervisors of bookkeeping and other clerical tasks and general office clerks. The Managerial and Administrative group also showed a major increase in positions for female employees especially for financial management and accountants, auditors and other financial officers. The largest category for female employment, however, was in jobs where they already had a high representation - cashiers and tellers, where 21,680 females were employed in 1981.

## PART III - FUTURE TRENDS: THE SURVEY RESULTS

### 3.0 ADOPTION OF NEW TECHNOLOGY

This chapter reviews the expected trends in the adoption of new technologies in Chartered Banks and the factors driving the need and affecting the rate of technology adoption.

### 3.1 New Technologies and Rates of Adoption

Computer and advanced communication systems have enabled the chartered banks to handle a higher volume of transactions, to process them at a greater speed and to offer their customers new services that could not otherwise be achieved. These services include daily interest calculations, payroll services, cross referencing of different accounts of one customer and daily cash management systems for business.

Computers were first introduced at the banks in the 1950's. In the 1960's, activity focused on batch processing of cheques. By the late 1960's, on-line systems were being installed. The earliest automated banking machines appeared in the early 1970's. In the second half of the 1970's came multi-branch banking and daily interest savings accounts. Currently, automated banking machines (ABMs) or automated teller machines as some people call them, are spreading rapidly as is shown in Table D.15. About half of the 2,436 machines planned for January, 1985 will be installed in Ontario. About one-third of bank customers are now using ABMs, and one result is that they make more frequent but smaller transactions. These machines can handle about four times as many transactions per month as human tellers, and they allow banks to provide services in locations and at hours that would not otherwise be feasible. ABMs cost about $90,000 each.

The occupational effects of the new technologies are pervasive. They affect every position in the bank from bank manager down to teller. The banks have actually been reducing staff while coping with an increasing volume of transactions. As a result, there have been negative effects on morale and a sharp reduction in staff turnover. Each bank has handled the implementation process differently, but all have spent considerable sums on advance preparation for use of the new technologies and retraining of staff to take on new functions. With the machines taking over the routine functions, some banks are giving their tellers sales training to help them handle a range of more complex transactions. Bank managers are being transformed into "a sales force", a far cry from the austere figure in the traditional bank. The bank branch itself is changing from the big banking hall to a smaller, more automated personal service unit.

The ABMs are having a major impact on cashier, teller and bookkeeping functions. There have been job losses, a general upgrading of skills and a pervasive need for computer literacy. But "Canada is on the verge of a virtual revolution in electronic payment transfers, which will permit instantaneous flows between financial instruments at very low cost.[1]" The next waves of technology will be to offer clients single-stop access for all bank business and to develop more timely and reliable management information systems. When this occurs, a number of middle management jobs will probably disappear.

Table 2 summarizes the percentage of firms who adopted new technologies before 1985 and their plans for using these technologies in the next five years and after 1990. The following provides observations on the survey findings.

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1. Gordon F. Boreham, "The Changing Nature of Canadian Banking", Canadian Banker, June, 1983.

Results of Question 3

## TABLE 2: CHARTERED BANKS

SIC 701

Percent of Firms Planning to Adopt New Technologies by Employment Size (1)

| Technologies | Before 1985 | | | | 1985-1990 | | | | 1990-1995 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Small | Medium | Large | Total | Small | Medium | Large | Total | Small | Medium | Large | Total |
| **CUSTOMER SALES AND SERVICE APPLICATIONS** | | | | | | | | | | | | |
| Automated Teller Machines (ATMs) | 0 | 50 | 100 | 43 | - | 50 | - | 9 | - | - | - | - |
| Automatic Cheque Verification | 0 | 0 | 67 | 23 | - | - | 33 | 11 | - | 50 | 33 | 21 |
| Pay by Phone | 0 | 0 | 0 | 0 | - | 50 | - | 9 | - | 50 | 33 | 21 |
| Automatic Debit/Credit Systems | 0 | 50 | 100 | 43 | - | 50 | 33 | 21 | - | - | - | - |
| Computerized Loan Qualification and Approval | 33 | 50 | 0 | 25 | - | 0 | 100 | 34 | - | - | - | - |
| "Smart" Cards (with installed microprocessors) | 0 | 0 | 0 | 0 | - | - | 33 | 11 | - | - | - | - |
| Home Banking | 0 | 50 | 0 | 9 | - | 50 | 33 | 21 | - | - | 33 | 11 |
| Connection to Retail Store Point of Sale Network | 0 | 0 | 33 | 11 | - | 50 | 67 | 32 | - | - | - | - |
| Computerized Trust Management | 0 | 0 | 33 | 11 | - | - | - | - | - | - | - | - |
| Computerized Pension Management | 0 | 0 | 67 | 23 | - | 50 | - | 9 | - | - | - | - |
| Securities Transfer/Stock Holder Services | 0 | 0 | 33 | 11 | 33 | - | 67 | 39 | - | - | - | - |
| Other | 0 | 0 | 33 | 11 | - | - | - | - | - | - | - | - |
| **DESIGN TECHNOLOGIES** | | | | | | | | | | | | |
| 4th Generation Computer Languages | 33 | 0 | 33 | 27 | 33 | - | 66 | 39 | 33 | 50 | - | 25 |
| **ELECTRONIC FUNDS TRANSFER (EFT)** | | | | | | | | | | | | |
| Electronic Funds Transfer (EFT) Interbranch | 67 | 50 | 100 | 72 | - | 50 | - | 10 | - | - | - | - |
| EFT Interbank | 67 | 0 | 100 | 62 | - | - | - | - | - | 50 | - | 10 |
| EFT Corporate Accounts | 33 | 0 | 100 | 44 | 33 | - | - | 18 | - | 50 | - | 10 |
| EFT Commercial and Retail Accounts | 0 | 0 | 100 | 26 | - | 50 | - | 10 | - | - | - | - |
| **OFFICE OR OFFICE AUTOMATION TECHNOLOGIES** | | | | | | | | | | | | |
| Mainframe/Minicomputers | 67 | 50 | 100 | 75 | 33 | - | - | 16 | - | - | - | - |
| Word Processing | 100 | 100 | 100 | 100 | 33 | - | - | 16 | - | - | - | - |
| Electronic Filing | 0 | 0 | 33 | 11 | 100 | 50 | 100 | 91 | - | - | - | - |
| Microcomputers/Personal Computers | 100 | 100 | 67 | 89 | 33 | - | 33 | 27 | - | - | - | - |
| Internal Data Base Management Systems | 33 | 50 | 100 | 59 | 100 | - | - | 48 | - | - | - | - |
| Local Area Networks (LANs) | 0 | 0 | 0 | 0 | 100 | 50 | 100 | 91 | - | - | - | - |
| Computerized Decision Support Systems | 33 | 0 | 33 | 27 | 33 | 50 | 100 | 59 | - | - | - | - |
| Voice Activated Computers | 0 | 0 | 0 | 0 | 33 | - | 33 | 27 | - | - | 33 | 11 |
| Artificial Intelligence/Expert Systems | 0 | 0 | 0 | 0 | - | - | 33 | 11 | - | - | 33 | 11 |
| Integrated Work Stations | 0 | 0 | 33 | 11 | 67 | 50 | 67 | 64 | 33 | - | - | 16 |
| **TELECOMMUNICATIONS TECHNOLOGIES** | | | | | | | | | | | | |
| Private Automatic Branch Exchange (PABX) | 67 | 0 | 100 | 66 | - | - | - | - | 33 | 50 | - | 25 |
| Electronic Mail | 33 | 0 | 67 | 39 | 67 | 50 | 33 | 52 | 33 | - | 33 | 27 |
| Voice Mail | 0 | 0 | 33 | 11 | 33 | - | 67 | 39 | - | 50 | - | 9 |
| Facsimile with Built-In Microprocessor (FAX) | 33 | 0 | 67 | 39 | 67 | - | 33 | 43 | 33 | - | - | 16 |
| Satellite/Microwave Systems | 0 | 0 | 33 | 11 | - | - | - | - | - | - | - | - |
| Videotex | 0 | 0 | 67 | 23 | - | - | - | - | - | - | 33 | 11 |
| Video Conferencing | 0 | 0 | 0 | 0 | 33 | 50 | 100 | 59 | 33 | 50 | - | 25 |
| Fibre Optics | 0 | 0 | 0 | 0 | 33 | - | 33 | 27 | - | - | - | - |

(1) '0' used prior to 1985 to indicate have not adopted. '-' used for period 1985-1990 and 1990-1995 to indicate respondents, at the time of survey, are not planning to adopt this technology or 'don't know'. Responses are not mutually exclusive.

In General

- The Banks are already advanced in the implementation of new technologies, although a few significant new developments are expected over the next five years. Little further adaptation is anticipated in the 1990's.

- The large banks are ahead of the medium Canadian banks or the small Schedule B banks in the adoption of electronic funds transfer and office automation technologies.

### 3.1.1 Customer Sales and Service Applications

- All the large banks and 50 percent of the medium sized banks now use automated teller machines (ATMs). The remaining medium sized banks expect to adopt ATMs before 1990. The small Schedule B banks do not serve the retail market so they have no need for ATMs or for many of the "retail" service oriented technologies.

- All the large banks and 50 percent of the medium sized banks have automated debit/credit systems. The other medium sized banks expect to adopt these systems by 1990.

- 67 percent of large banks have automatic cheque verification. The other large banks and 50 percent of the medium sized banks will adopt them by 1995.

- 33 percent of small banks and 50 percent of medium banks have computerized loan qualification and approval. The large banks plan to adopt this application before 1990.

- 50 percent of the medium sized banks have begun to adopt home banking but the large banks do not expect to begin to offer this service until after 1990.

### 3.1.2 Design Technologies

- 27 percent of the banks now use 4th generation computer languages. Their use will extend to 66 percent of banks by 1990 and to more small and medium sized banks after 1990.

### 3.1.3 Electronic Funds Transfer

- All the large banks use EFT for interbranch, interbank, corporate, commercial and retail transactions. 50 percent of the medium sized banks use EFT for interbranch transactions only and the remainder will do so before 1990. They do not expect to use EFT for interbank and corporate accounts until after 1990. 67 percent of the small (Schedule B) banks use EFT for interbranch and interbank transactions; 33 percent for corporate accounts.

### 3.1.4 Office and Office Automation Technologies

- Mainframe and microcomputers, word processing, microcomputers and interval data base management systems are already widely used in the banking system.

- Electronic filing, local area networks and computerized decision support systems will be adopted by almost all banks over the next five years.

- Integrated work stations will be adopted by 64 percent of the banks before 1990.

- Voice activated computers and artificial intelligence/expert systems will be adopted by 33 percent of the large banks before 1990 and an additional 33 percent after 1990.

### 3.1.5 Telecommunications Technologies

- All large banks and 67 percent of the small banks now have private automated branch exchanges. The other small and 5 percent of the medium sized banks will adopt them after 1990.

- 67 percent of the large banks now use electronic mail, FAX systems, and videotex; 67 percent of the small banks expect to adopt FAX before 1990.

- All the large banks, 50 percent of the medium banks and 33 percent of the small banks expect to introduce video conferencing before 1990, with most of the remaining banks following suit after 1990.

## 3.2 Forces Driving the Need to Adopt New Technologies

A few key forces are driving these firms to adopt new technologies. Table 3 summarizes the responses to a series of open-ended questions. The most important factors (ranked according to the weighted importance shown in in the table) are:

- Competitive pressures,
- Increase management information,
- Increase profitability, and
- Increase productivity.

The ranking varied considerably by size of bank. Small banks emphasized increasing management information; medium sized banks mentioned competitive pressures first; while large banks ranked

Results of Question 4

TABLE 3: CHARTERED BANKS — SIC 701

Most Important Factors Driving Need to Adopt New Technologies

| Factor | | Percent of Firms by Employment Size: Small (50-199) | Medium (200-999) | Large (1000+) | Total Firms |
|---|---|---|---|---|---|
| COMPETITIVE PRESSURES | First | 33 | 50 | 33 | 36 |
| | Second | 33 | 50 | 0 | 25 |
| | Third | 33 | 0 | 0 | 16 |
| | Weighted Importance (1) | 2.0 | 2.5 | 1.0 | 1.8 |
| CUSTOMER DEMANDS FOR CHANGES | First | 33 | 0 | 0 | 16 |
| | Second | 0 | 0 | 0 | 0 |
| | Third | 0 | 0 | 0 | 0 |
| | Weighted Importance | 1.0 | 0.0 | 0.0 | 0.5 |
| INCREASE PROFITABILITY | First | 0 | 50 | 33 | 21 |
| | Second | 0 | 0 | 33 | 11 |
| | Third | 0 | 0 | 0 | 0 |
| | Weighted Importance | 0.0 | 1.5 | 1.7 | 0.8 |
| INCREASE PRODUCTIVITY | First | 0 | 0 | 0 | 0 |
| | Second | 0 | 50 | 67 | 32 |
| | Third | 0 | 50 | 0 | 9 |
| | Weighted Importance | 0.0 | 1.5 | 1.3 | 0.7 |
| INCREASE MANAGEMENT INFORMATION | First | 33 | 0 | 0 | 16 |
| | Second | 67 | 0 | 0 | 32 |
| | Third | 0 | 0 | 33 | 11 |
| | Weighted Importance | 2.3 | 0.0 | 0.3 | 1.2 |
| LOWER COSTS | First | 0 | 0 | 33 | 11 |
| | Second | 0 | 0 | 0 | 0 |
| | Third | 0 | 0 | 33 | 11 |
| | Weighted Importance | 0.0 | 0.0 | 1.3 | 0.5 |
| INCREASE SKILLS/ ORGANIZATIONAL CAPABILITY | First | 0 | 0 | 0 | 0 |
| | Second | 0 | 0 | 0 | 0 |
| | Third | 0 | 50 | 0 | 9 |
| | Weighted Importance | 0.0 | 0.5 | 0.0 | 0.1 |
| ENTER NEW MARKETS/ GROWTH | First | 0 | 0 | 0 | 0 |
| | Second | 0 | 0 | 0 | 0 |
| | Third | 0 | 0 | 33 | 11 |
| | Weighted Importance | 0.0 | 0.0 | 0.3 | 0.1 |
| OBSOLESCENCE | First | 0 | 0 | 0 | 0 |
| | Second | 0 | 0 | 0 | 0 |
| | Third | 33 | 0 | 0 | 16 |
| | Weighted Importance | 0.3 | 0.0 | 0.0 | 0.2 |

(1) Weighted Importance = (First % x 3) + (Second % x 2) + (Third % x 1)

Results of Question 5

TABLE 4: CHARTERED BANKS — SIC 701

Most Important Factors that Could Slow the Rate of New Technology Adoption

| Factor | | Percent of Firms by Employment Size: Small (50-199) | Medium (200-999) | Large (1000+) | Total Firms |
|---|---|---|---|---|---|
| ABILITY TO FINANCE | First | 0 | 0 | 0 | 0 |
| | Second | 0 | 50 | 33 | 21 |
| | Third | 0 | 0 | 0 | 0 |
| | Weighted Importance (1) | 0.0 | 1.0 | 0.7 | 0.4 |
| COST OF NEW TECHNOLOGY | First | 0 | 50 | 33 | 21 |
| | Second | 67 | 0 | 0 | 32 |
| | Third | 0 | 0 | 0 | 0 |
| | Weighted Importance | 1.3 | 1.5 | 1.0 | 1.3 |
| LACK OF GOVERNMENT ASSISTANCE | First | 33 | 0 | 33 | 27 |
| | Second | 0 | 0 | 0 | 0 |
| | Third | 0 | 0 | 0 | 0 |
| | Weighted Importance | 1.0 | 0.0 | 1.0 | 0.8 |
| POOR ECONOMIC CONDITIONS | First | 33 | 0 | 33 | 27 |
| | Second | 0 | 0 | 33 | 11 |
| | Third | 0 | 50 | 0 | 9 |
| | Weighted Importance | 1.0 | 0.5 | 1.7 | 1.1 |
| LACK OF SKILLS AND/OR KNOW-HOW TO IMPLEMENT | First | 0 | 50 | 0 | 9 |
| | Second | 33 | 0 | 0 | 16 |
| | Third | 33 | 0 | 100 | 50 |
| | Weighted Importance | 1.0 | 1.5 | 1.0 | 1.1 |
| LACK OF NEW TECHNOLOGY STANDARDIZATION | First | 33 | 0 | 0 | 16 |
| | Second | 0 | 0 | 33 | 11 |
| | Third | 0 | 0 | 0 | 0 |
| | Weighted Importance | 1.0 | 0.0 | 0.7 | 0.7 |
| ALL OTHERS | First | 0 | 0 | 0 | 0 |
| | Second | 0 | 50 | 0 | 9 |
| | Third | 0 | 0 | 0 | 0 |
| | Weighted Importance | 0.0 | 1.0 | 0.0 | 0.2 |

(1) Weighted Importance = (First % x 3) + (Second % x 2) + (Third % x 1)

increase profitability first. The large banks in particular focussed on new technologies as a means of lowering costs and increasing productivity.

### 3.3 Factors That Could Slow the Rate of Technology Adoption

A few factors could slow the rate at which banks adopt new technologies. Table 4 summarizes the results of the survey. The most important factors are:

- Cost of new technology,
- Poor economic conditions,
- Lack of skills and/or know how (all the large banks ranked this as the third most important factor), and
- Lack of government assistance.

There were no mentions of unwillingness to change or employee resistance.

In summary, the banking system is already well advanced in the implementation of new technologies. Further advances are expected in the 1985 to 1990 period, when the technologies being studied will be widely diffused in the industry. The main reasons for adopting these technologies are, for the large banks, to reduce costs and to improve profitability. Small banks are motivated by a need for management information and medium sized banks are motivated by competitive pressures. The main constraints on the adoption of these technologies are cost and poor economic conditions.

## 4.0 INDUSTRY OUTLOOK TO 1995

This chapter describes the respondents' views of the outlook for the industry in terms of aggregate output (i.e., assets in Ontario), investment plans, aggregate employment and changes in occupational structure to 1995.

### 4.1 Output to 1995

Following a 7.4 percent average annual growth rate from 1971 to 1980, the value of Ontario assets (in constant dollars) declined by 4.8 percent in 1982 and by 5.5 percent in 1983 to reach $72.9 billion. The firms surveyed estimated annual growth of 4.5 percent from 1985 to 1990 and of 3.5 percent from 1990 to 1995 (see Table 5, page 36). Medium sized banks experienced stronger growth than the small and large firms from 1983 to 1984, and they are far more optimistic about future asset growth than either the small or large banks.

Experts in the field expressed a range of views. They expect asset growth to vary from a low of 1.5 percent to a high of 5.0 percent over the next 10 years.

### 4.2 Investment Patterns

Capital investment in the Ontario banking sector is estimated, by respondents, to be approximately $93 million (in today's dollars) in the period 1985 to 1990 and $99.5 million in the period 1990 to 1995. Almost 90 percent of that amount is expected to be in machinery and equipment, with about 85 percent of the investment in machinery and equipment related to new technology.

#### 4.2.1 Justifying Financial Investment in New Technology

When considering investments in new technology, 54 percent of firms use the concept of pay-back period in assessing such a decision (Table 6). On average firms expect a

Results of Question 1

## TABLE 5: CHARTERED BANKS

SIC 701

Bank Assets in Ontario

Average Annual Compound Rate of Change (in Constant Dollars)

| Firms by Employment Size | Estimated 1983-1984 | Estimated 1984-1985 | Expected 1985-1990 | Expected 1990-1995 |
|---|---|---|---|---|
| Small (50-199) | -5.5 | 8.5 | 4.5 | 2.5 |
| Medium (200-999) | 26.0 | 29.5 | 10.0 | 8.0 |
| Large (1000+) | 4.0 | 3.2 | 2.5 | 3.0 |
| Total Firms | 1.5 | 8.5 | 4.5 | 3.5 |

(1) Rounded to closest 0.5 %

Results of Question 17e

TABLE 6: CHARTERED BANKS — SIC 701

Justifying Financial Investment in New Technology

| Firms by Employment Size | Pay-Back Period: % of Firms Using Pay-Back | Pay-Back Period: Average Period (Years) | Return on Investment: % of Firms Using ROI | Return on Investment: Average Rate (%) |
|---|---|---|---|---|
| Small (50-199) | 33 | 4 | 33 | n.a. |
| Medium (200-999) | 50 | n.a. | 50 | n.a. |
| Large (1000+) | 100 | 2 | 50 | n.a. |
| Total Firms | 54 | 3 | 41 | n.a. |

Answers not mutually exclusive.
n.a. no answer

Results of Question 17f

TABLE 7: CHARTERED BANKS — SCI 701

Source of Funds for New Technology Spending

| Employment Size | Internal Funds (Percent) | External Funds (Percent) |
|---|---|---|
| Small (50-199) | 100 | 0 |
| Medium (200-999) | 100 | 0 |
| Large (1000+) | 100 | 0 |
| Total Firms | 100 | 0 |

pay-back within 3 years. 41 percent of the firms use return on investment (ROI) to evaluate investment decisions and some banks use both methods.

#### 4.2.2 Source of New Capital Spending

All the banks interviewed expect to rely on internal sources of funds to finance their capital spending. See Table 7.

### 4.3 Employment to 1995

This section reviews expected trends in employment patterns and outlines the most important factors affecting aggregate employment.

#### 4.3.1 Factors Affecting Employment

When asked to identify the most important factors affecting the firm's employment level in Ontario, respondents identified the following ranked according to weighted importance, as shown in Table 8:

- Overall economic growth,
- Ability to compete,
- Introduction of new technology, and
- Industry-wide growth.

Large banks mentioned availability of necessary skills as the most important factor, and industry-wide growth as second, while the small banks all selected overall economic growth as the most important factor affecting future employment.

Results of Question 11a,b,c

TABLE 8: CHARTERED BANKS — SIC 701

Most Important Factors Affecting The Firms' Employment in Ontario

| Factor | | Percent of Firms by Employment Size | | | |
|---|---|---|---|---|---|
| | | Small (50-199) | Medium (200-999) | Large (1000+) | Total Firms |
| PROFITABILITY/ FINANCIAL STRENGTH | First | 0 | 0 | 33 | 14 |
| | Second | 0 | 0 | 0 | 0 |
| | Third | 0 | 0 | 0 | 0 |
| | Weighted Importance (1) | 0.0 | 0.0 | 1.0 | 0.4 |
| INCREASE SALES/ INCREASE MARKET SHARE | First | 0 | 0 | 0 | 0 |
| | Second | 0 | 0 | 33 | 14 |
| | Third | 50 | 0 | 0 | 19 |
| | Weighted Importance | 0.5 | 0.0 | 0.7 | 0.5 |
| INTRODUCTION OF NEW TECHNOLOGY | First | 0 | 0 | 0 | 0 |
| | Second | 0 | 50 | 33 | 24 |
| | Third | 0 | 0 | 33 | 14 |
| | Weighted Importance | 0.0 | 1.0 | 1.0 | 0.6 |
| PRODUCT DIVERSIFICATION | First | 0 | 0 | 0 | 0 |
| | Second | 50 | 0 | 0 | 19 |
| | Third | 0 | 0 | 0 | 0 |
| | Weighted Importance | 1.0 | 0.0 | 0.0 | 0.4 |
| AVAILABILITY OF NECESSARY SKILLS | First | 0 | 0 | 33 | 14 |
| | Second | 0 | 0 | 0 | 0 |
| | Third | 0 | 0 | 33 | 14 |
| | Weighted Importance | 0.0 | 0.0 | 1.3 | 0.5 |
| ABILITY TO COMPETE | First | 0 | 0 | 0 | 0 |
| | Second | 50 | 0 | 33 | 32 |
| | Third | 0 | 0 | 0 | 0 |
| | Weighted Importance | 1.0 | 0.0 | 0.7 | 0.7 |
| INDUSTRY-WIDE GROWTH | First | 0 | 0 | 33 | 14 |
| | Second | 0 | 0 | 0 | 0 |
| | Third | 0 | 0 | 33 | 14 |
| | Weighted Importance | 0.0 | 0.0 | 1.3 | 0.5 |
| OVERALL ECONOMIC GROWTH | First | 100 | 50 | 0 | 49 |
| | Second | 0 | 0 | 0 | 0 |
| | Third | 0 | 0 | 0 | 0 |
| | Weighted Importance | 3.0 | 1.5 | 0.0 | 1.5 |

(1) Weighted Importance = (First % x 3) + (Second % x 2) + (Third % x 1)

Results of Question 11d

## TABLE 9: CHARTERED BANKS — SIC 701

Firms' Employment Trends in Ontario

| Firms by Employment Size | Total Employment and Average Annual Compound Rate of Change (1) | | | |
|---|---|---|---|---|
| | Estimated Rate | | Expected Rate | |
| | 1981-1984 | 1984-1985 | 1985-1990 | 1990-1995 |
| Small (50-199) | 17.0 | 4.0 | 3.5 | 2.0 |
| Medium (200-999) | 13.5 | 4.0 | 0.0 | 0.0 |
| Large (1000+) | 0.0 | 0.5 | 0.0 | 0.0 |
| Total Firms | 0.5 | 1.0 | 0.0 | 0.0 |

(1) Rounded to closest 0.5%.

### 4.3.2 Employment Outlook

From 1971 to 1981, employment in banking in Ontario grew at an annual rate of 5.4 percent. During 1982, employment dropped 1.7 percent to reach 64,601. The survey findings suggest that these job losses were overcome during 1984 as the respondents estimated employment grew by 0.5 percent from 1981 to 1984 and that it would jump by 1 percent in 1985 (Table 9). However, the small banks generally expect employment to grow by 3.5 percent per year from 1985 to 1990 and by 2 percent from 1990 to 1995.

Experts in the field do not expect to see any change in employment over the next ten years.

### 4.3.3 Trends in Part-Time Work

Part-time employment is becoming more important to the banks. In 1981, an estimated 13 percent of total employment was part-time. In 1984 it rose to 16 percent and is expected to be 18.5 percent in the 1990 to 1995 period. Only the large banks make extensive use of part-time employees.

## 4.4 Changes in Occupational Structure

Table 10 shows trends in occupational structure (i.e., percent of total industry employment by occupation) in banking from 1981 to 1995.

The respondents to the survey anticipate only minor shifts in the composition of the work force, with a decline in Managerial, Administrative and Related occupations and a rise in Clerical occupations.

Results of Question 12

TABLE 10: CHARTERED BANKS — SIC 701

Trends in Firms' Occupational Structure

| Occupations | Percent of Total Employment by Selected Occupational Categories | | | | |
|---|---|---|---|---|---|
| | Estimated | | | Expected | |
| | 1981 | 1984 | 1985 | 1990 | 1995 |
| MANAGERIAL, ADMINISTRATIVE AND RELATED | 22.5 | 24.3 | 24.3 | 24.4 | 23.9 |
| • Financial Management | | + | 0 | 0 | 0 |
| • Financial Officers | | + | 0 | 0 | - |
| • All Other Managerial | | 0 | 0 | 0 | 0 |
| NATURAL SCIENCES, ENGINEERING AND MATHEMATICS | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| • Systems Analysts and Computer Programmers | | 0 | 0 | 0 | 0 |
| CLERICAL | 69.5 | 67.4 | 66.7 | 66.1 | 65.7 |
| • Clerical Supervisors | | - | - | - | - |
| • Secretaries | | - | - | - | - |
| • Typists/Clerk Typists (includes Word Processing Operators) | | - | - | - | - |
| • Bookkeepers and Accounting Clerks | | - | - | - | - |
| • Bank Finance Clerks | | - | - | - | - |
| • EDP Equipment Operators | | - | - | - | - |
| • General Office Clerks | | - | - | - | - |
| • Cashiers and Tellers | | 0 | - | - | - |
| • All Other Clerks | | 0 | 0 | 0 | 0 |
| OTHER OCCUPATIONS | 6.5 | 6.8 | 7.5 | 8.0 | 8.9 |
| TOTAL | 100% | 100% | 100% | 100% | 100% |

\+ increase - decrease 0 no change

Note: Firms gave sparse information about where any occupational changes may occur.

Experts in this industry anticipate an increase in Managerial employment and a decline in Clerical.

The large banks did not report any employees in the Natural Sciences, Engineering and Mathematics category. This is an anomaly in the data since systems analysts/computer programmers play a significant role in this industry. They accounted for 2.7 percent of employees in the 1981 Census and expert interviews suggest that this group will increase to about 5 percent of total employment by 1995. Presumably, some survey respondents included these employees in both the Managerial and Clerical classifications in Table 10. Table 11 shows for example, that the banks expect a shortage of EDP equipment operators, an occupation listed in the Clerical category. The consensus of expert interview results is shown below.

Distribution of Employment
by Major Occupational Category for Chartered Banks

| | 1981 Census | 1995 Expert Interviews Consensus |
|---|---|---|
| Managerial, Administrative and Related | 24% | 30% |
| Natural Sciences, Engineering and Mathematics | 3% | 5% |
| Clerical | 69% | 60% |
| Other | 4% | 5% |

Results of Question 6

## TABLE 11: CHARTERED BANKS

SIC 701

Impact of Technology on Selected Occupations in Firms 1985-1995

| Occupations | Percent of Firms | | |
|---|---|---|---|
| | Oversupply | Shortage | No Response |
| MANAGERIAL, ADMINISTRATIVE AND RELATED | | | |
| • Financial Management | 16 | 43 | 41 |
| • Financial Officers | 0 | 43 | 57 |
| • All Other Managerial | 11 | 36 | 52 |
| NATURAL SCIENCES, ENGINEERING AND MATHEMATICS | | | |
| • Systems Analysts and Computer Programmers | 42 | 58 | 0 |
| CLERICAL | | | |
| • Clerical Supervisors | 38 | 17 | 45 |
| • Secretaries | 12 | 30 | 58 |
| • Typists/Clerk Typists (includes Word Processing Operators) | 53 | 12 | 35 |
| • Bookkeepers and Accounting Clerks | 72 | 0 | 28 |
| • Statistical Clerks | 0 | 100 | 0 |
| • Bank Finance Clerks | 39 | 11 | 50 |
| • Insurance Clerks | 0 | 0 | 100 |
| • EDP Equipment Operators | 11 | 43 | 46 |
| • Library File Clerks | 0 | 0 | 100 |
| • General Office Clerks | 50 | 0 | 50 |
| • Cashiers and Tellers | 25 | 0 | 75 |
| • All Other Clerks | 0 | 0 | 100 |
| OTHER OCCUPATIONS | 11 | 23 | 66 |

## 5.0 EMPLOYMENT EFFECTS OF NEW TECHNOLOGY

This chapter reviews the survey results on the employment effects of new technology in terms of skills match and requirements, and impact on skill levels and job content.

### 5.1 Effects on Occupations

Table 11 summarizes firms' expectations of technology impacts on occupational requirements. There is consensus that many occupations will be in short supply within their organizations. The figures in brackets refer to the percent of firms expecting a shortage:

- Financial management and finance officers (43%);
- All other managerial (36%);
- Systems analysts and computer programmers (58%); although 42 percent expect an excess supply in this occupation;
- Statistical clerks (100%); and
- EDP equipment operators (43%);

The occupations where an oversupply may occur are:

- Clerical supervisors (38%);
- Typists (53%);
- Bookkeepers and accounting clerks (72%);
- Bank finance clerks (39%);
- General office clerks (50%; and
- Cashiers and tellers (25%).

Results of Question 7

TABLE 12: CHARTERED BANKS — SIC 701

Steps Firms Will Likely Take to Deal With OVERSUPPLY of Skills 1985-1995

| Occupations | Most Commonly Cited | Second Most Common | Third Most Common |
|---|---|---|---|
| MANAGERIAL, ADMINISTRATIVE AND RELATED | | | |
| • Financial Officers | Retrain | (1) | (1) |
| • All Other Managerial | Retrain | Attrition | (2) |
| NATURAL SCIENCES, ENGINEERING AND MATHEMATICS | | | |
| • Systems Analysts and Computer Programmers | Attrition | Retrain | Layoff |
| CLERICAL | | | |
| • Clerical Supervisors | Retrain | Upgrade | Attrition |
| • Secretaries | Upgrade | Lateral Transfer | (2) |
| • Typists/Clerk Typists (includes Word Processing Operators) | Retrain | Job Share | Shorter Hours |
| • Bookkeepers and Accounting Clerks | Attrition | Job Share | Retrain |
| • Bank Finance Clerks | Job Share | Attrition | Upgrade |
| • EDP Equipment Operators | Retrain | Attrition | (2) |
| • General Office Clerks | Attrition | Job Share | Upgrade |
| • Cashiers and Tellers | Attrition | Upgrade | Retrain |
| OTHER OCCUPATIONS | Retrain | Upgrade | (2) |

(1) Only one step mentioned.
(2) Only two steps mentioned.

## 5.2 Likely Steps to Deal with Skills Oversupply

In dealing with a potential oversupply of skills in their organizations, the most commonly cited step which would affect the largest number of people are shown in Table 12.

They can be summarized, according to frequency of mention, as follows:

| | Most Common | Second Most Common | Third Most Common |
|---|---|---|---|
| Retrain | 6 | 1 | 2 |
| Attrition | 4 | 3 | 1 |
| Upgrade | 1 | 3 | 2 |
| Job Share | 1 | 3 | - |
| Lateral Transfer | - | 1 | - |
| Shorter Hours | - | - | 1 |
| Layoffs | - | - | 1 |

The most likely responses to oversupply will be retraining, attrition and upgrading.

## 5.3 Likely Steps to Deal with Skills Shortages

In coping with anticipated skill shortages, the responses are:

| | Most Common | Second Most Common | Third Most Common |
|---|---|---|---|
| Retrain | 7 | 1 | 1 |
| Recruit | 2 | 4 | 3 |
| Upgrade | 1 | 3 | - |
| Contract out | - | 1 | - |

The preferred response to skill shortages will be to retrain staff, with recruiting as the most frequently mentioned back-up. The details are shown in Table 13.

Results of Question 8

TABLE 13: CHARTERED BANKS — SIC 701

Steps Firms Will Likely Take to Deal With SHORTAGE of Skills 1985-1995

| Occupations | Most Commonly Cited | Second Most Common | Third Most Common |
|---|---|---|---|
| MANAGERIAL, ADMINISTRATIVE AND RELATED | | | |
| • Financial Officers | Retrain | Upgrade | Recruit |
| • Personnel and Related | Retrain | Upgrade | Recruit |
| • All Other Managerial | Retrain | Recruit | (1) |
| NATURAL SCIENCES, ENGINEERING AND MATHEMATICS | | | |
| • Systems Analysts and Computer Programmers | Recruit | Contract Out | Retrain |
| CLERICAL | | | |
| • Clerical Supervisors | Retrain | Recruit | (1) |
| • Secretaries | Retrain | Recruit | (1) |
| • Typists/Clerk Typists (includes Word Processing Operators) | Recruit | (2) | (2) |
| • Statistical Clerks | n.a. | n.a. | n.a. |
| • Bank Finance Clerks | Upgrade | Retrain | (1) |
| • EDP Equipment Operators | Retrain | Recruit | (1) |
| OTHER OCCUPATIONS | Retrain | Upgrade | Recruit |

(1) Only two steps mentioned.
(2) Only one step mentioned.
n.a. no answer.

## 5.4 Technology Impact on Skill Levels and Job Content

Respondents were asked to rank the impact of new technologies on selected occupations for:

- skills required,
- time to achieve proficiency, and
- knowledge of firm's operations.

The results are summarized in Table 14. Respondents expected the skill levels required to rise across numerous Managerial and Clerical occupations. The most frequently mentioned were Clerical supervisors and EDP equipment operators. Opinion about the time required to achieve proficiency was evenly balanced in most occupations, although most expected an increase for finance officers and systems analysts. The banks also expect an increase in the required knowledge of the bank's operations for these two occupations.

## 5.5 Training Costs and New Technology

Banks estimate that they currently spend 2.5 percent of their total labour costs on training. This will decline to about 2 percent over the next 10 years. 22 to 28 percent of the training costs currently are related to new technology, and this is expected to increase to 38 percent by 1990.

Small and medium sized banks currently spend more than large banks on training (2.5 percent of labour costs versus 1.5 percent) and will continue to do so in the future. In addition, a much higher proportion of their training costs (50 to 55 percent) will be related to new technology. Only 12 percent of the large banks' training costs will be related to new technology.

Results of Question 9

TABLE 14: CHARTERED BANKS — SIC 701

Impact of Technology on Skill Levels and Job Content

(1) Percent of Firms

| Occupations | Skills Required | | | Time to Achieve Proficiency | | | Knowledge of Firm's Operations | | |
|---|---|---|---|---|---|---|---|---|---|
| | + | - | 0 | + | - | 0 | + | - | 0 |
| MANAGERIAL, ADMINISTRATIVE AND RELATED | | | | | | | | | |
| • Financial Management | 59 | 0 | 41 | 39 | 16 | 46 | 32 | 16 | 52 |
| • Financial Officers | 59 | 16 | 25 | 55 | 0 | 46 | 48 | 16 | 36 |
| • All Other Managerial | 66 | 0 | 34 | 53 | 22 | 25 | 56 | 22 | 22 |
| NATURAL SCIENCES, ENGINEERING AND MATHEMATICS | | | | | | | | | |
| • Systems Analysts and Computer Programmers | 73 | 13 | 14 | 73 | 0 | 27 | 87 | 0 | 13 |
| CLERICAL | | | | | | | | | |
| • Clerical Supervisors | 100 | 0 | 0 | 49 | 28 | 23 | 69 | 18 | 13 |
| • Secretaries | 69 | 31 | 0 | 36 | 41 | 23 | 33 | 18 | 49 |
| • Typists/Clerk Typists (includes Word Processing Operators) | 63 | 22 | 15 | 22 | 34 | 44 | 28 | 22 | 50 |
| • Bookkeepers and Accounting Clerks | 41 | 31 | 28 | 36 | 31 | 33 | 20 | 31 | 49 |
| • Bank Finance Clerks | 57 | 32 | 11 | 32 | 32 | 35 | 35 | 32 | 32 |
| • EDP Equipment Operators | 78 | 22 | 0 | 50 | 22 | 28 | 25 | 37 | 38 |
| • General Office Clerks | 58 | 21 | 21 | 15 | 36 | 49 | 27 | 36 | 36 |
| • Cashiers and Tellers | 30 | 0 | 70 | 0 | 0 | 100 | 43 | 0 | 57 |
| OTHER OCCUPATIONS | 100 | 0 | 0 | 100 | 0 | 0 | 100 | 0 | 0 |

+ increase - decrease 0 remain the same

(1) Non-responses excluded.

The stability in training costs is consistent with the fact that the large banks are well advanced in the adoption of new technologies and have already established extensive retraining programs.

TABLE 15

INDUSTRIAL RELATIONS: CHARTERED BANKS AND TRUST COMPANIES

| UNION | NUMBER OF MEMBERS | MAJOR EMPLOYER* | LOCATION |
|---|---|---|---|
| OFFICE AND PROFESSIONAL EMPLOYEES | 56 | Soo & District of Algoma Credit Union | Saulte Ste. Marie |
| | 50 | Hamilton-Wentworth Credit Union | Hamilton |
| | 44 | Auto Workers Oshawa Credit Union | Oshawa |
| | 38 | West Fort William Credit Union | Thunder Bay |
| | 37 | Stelco Employees Primary Works Credit Union | Hamilton |
| | 16 | Cuna of Ontario Credit Union | Burlington and Oakville |
| | 12 | Northland Savings and Credit Union | Kapuskasing |
| | 11 | Twin Oak Industrial Credit Union | Oakville |
| UNITED AUTO WORKERS | 45 | Family Savings and Credit Union Niagara | St. Catharines |
| | 18 | Motorco and Windsor Credit Union | Windsor |
| UNITED STEELWORKERS | 36 | ASCU Community Credit Union | Sault Ste. Marie |
| CANADIAN BREWERY WORKERS | 19 | Canada Trustco Mortgage | St. Catharines |
| CLC DIRECTLY CHARTERED | 14 | Brant Community Credit Union | Brantford |
| | 10 | Bank of Nova Scotia | Port Dover |
| FOOD AND COMMERCIAL WORKERS | 14 | Bank of Montreal | Tweed |
| INDEPENDENT LOCAL | 12 | Airline Malton Credit Union | Malton |

* Employer with a union agreement covering 10 employees or more. The above agreements represent 81 percent of unionized employees.

Note No information available concerning technology change clauses for firms with less than 200 employees on data base of the Ontario Ministry of Labour.

SOURCE: Collective Bargaining Agreement Systems, Ontario Ministry of Labour.

## 6.0 LABOUR RELATIONS ENVIRONMENT

This chapter discusses the labour relations environment in the industry.

### 6.1 Industrial Relations Environment: Historical

Only 531 employees, 0.6 percent of the 95,000 total employees in the banking and trust industry in Ontario, belong to unions because union entry into the industry is recent and not yet established in the larger firms. The unions with an agreement applicable to ten or more employees are listed in Table 15. They represent 81 percent of the unionized employees. The major unions are the Office and Professional Employees representing 64 percent of the unionized employees and the United Auto Workers which represents a further 14 percent. Most of the employers with unionized employees are credit unions.

A new union, the Union of Bank Employees (UBE), obtained its first representation, 200 employees, at the Canadian Imperial Bank of Commerce's Toronto VISA centre in October, 1984. The UBE is meeting with employees at a number of banking and trust company branches in Ontario at the Bank of Nova Scotia, The Royal Bank of Canada, the Bank of Montreal and Canada Trustco. The union's major concern is the impact of new technology in the industry. It is trying to introduce more steps regarding retraining and possible job transfer arrangements.

### 6.2 Trends in Unionization

The survey suggests that banks with over 1,000 employees are more likely to have a union than smaller banks. Only 23 percent of banks have some union representation.

For banks with unions, approximately 1 percent of their work force is unionized. Banks anticipate little change in the percentage of unionization over the next ten years.

## 6.3 Technology Change Clauses

In the survey, of the firms with a union agreement, 75 percent reported having technology change clauses covering advance notice, consultation and job security. Two thirds of those with such clauses included seniority arrangements.

## 6.4 Management's Perception of their Union's Position on New Technology

Of the firms reporting a union, 50 percent of the respondents perceive that the union accepts the need to adopt new technology. This is consistent with our findings that firms do not see union or employee resistance as a factor which would slow their rate of new technology adoption.

## 6.5 Nature of Worker Involvement in the Process of Technological Change

Banks were asked whether they had a formal mechanism for worker participation in setting production and/or sales targets, improving productivity/quality, and adopting new technology. The following summarize the survey results.

- 50 percent of the large banks have a mechanism for worker involvement in setting sales or volume targets at the corporate or divisional level.

- 100 percent of the small banks have this kind of mechanism at the departmental or working group level.

- 34 percent have a mechanism for worker involvement for improving productivity/quality (includes 50 percent of the large banks).

- 26 percent have a mechanism for worker involvement for adopting new technology (100 percent of the medium sized and 50 percent of the large banks).

## 6.6 Views on Involving Workers in Decisions on Adopting New Technology

The banks were also asked to what extent and how should management involve workers in decisions regarding the adoption of new technologies. Approximately 61 percent favoured full involvement, 16 percent favoured prior consultation and 16 percent favoured involvement in the form of information only.

Results of Question 18

## TABLE 16: CHARTERED BANKS

SIC 701

### Planning for Technological Change

| Firms by Employment Size | Strategic Plan | Human Resource Plan | | Capital Investment Plan | | Perceived Integration Between Capital and Human Plans (1) |
|---|---|---|---|---|---|---|
| | Percent of Firms With Plan | Percent of Firms With Plan | Length of Planning Horizon | Percent of Firms With Plan | Length of Planning Horizon | |
| Small (50-199) | 100 | 100 | 7 years | 67 | 5 years | 4.0 |
| Medium (200-999) | 100 | 50 | 2 years | 50 | 2 years | 4.0 |
| Large (1000+) | 100 | 100 | 5 years | 100 | 3 years | 3.5 |
| Total Firms | 100 | 91 | 6 years | 72 | 4 years | 3.8 |

(1) Using a scale of 1 to 5; 1 represents "Not at all integrated" and 5 "Highly integrated".

## 7.0 PLANNING FOR TECHNOLOGICAL CHANGE

The following chapter reports the results of the survey regarding questions related to planning for technology change. A summary of those results appears in Table 16.

All the banks surveyed have strategic plans, and 91 percent have a human resource plan with an average timespan of six years. The respondents indicate a fairly high degree of integration between their capital and human resource plans.

# SECTION II - TRUST AND LOAN COMPANIES

## PART II - HISTORICAL TRENDS 1971-1984

### 2.0 INTRODUCTION

This section of the report provides an historical analysis of Trust and Loan Companies' trends for the period 1971 to 1981 and 1982 to 1984.

There are 91 trust and loan companies registered in the province of Ontario. Of these, 45 are federally incorporated and 28 are provincially incorporated. The others are incorporated in other provinces or outside Canada. These 91 companies had assets of $92.3 billion in 1983 and they employed about 28,000 people. The figures for employment tend to underestimate the correct total because most mortgage loan companies operate as an integral part of either a trust company or a bank. Those that are owned by a trust company would report their employees as part of the trust and loan industry, but those that are owned by a bank would report their employees with the banking industry. There is no information available for operations in Ontario, so this section of the report will deal entirely with Canadian data.

### 2.1 The Structure of the Industry

The trust and loan industry is composed of a small number of very large companies and a number of small companies, many of whom are recent entrants to the industry. In 1970, there were only 56 companies registered in Ontario. Since then there have been a number of mergers so more than 35 new firms have started business in Ontario since 1970. The ten largest trust companies are listed in Appendix D, Table D.18. They account for about 76 percent of the assets in Canada of the trust companies. The nine largest loan companies are listed in Table D.19. They account for 91 percent of the assets of mortgage loan companies in Canada. Note that most of these loan companies are owned and

operated by banks (such as the Bank of Montreal, the Bank of Nova Scotia, the Royal Bank of Canada (Roymor) and the Toronto Dominion Bank (Tordom).

Others bear the same name as the trust company that controls them. The loan companies specialize in raising deposits from the public for the purpose of investing in mortgages secured by real estate. For the remainder of this report, they will be treated as an integral part of the trust companies.

Trust companies perform two distinct functions. They act as financial intermediaries (a banking function) and they play a fiduciary role. As financial intermediaries, they accept deposits and invest the funds in mortgages, securities, and other loans. They are therefore competing directly with the banks.[1] This aspect of their business is shown as guaranteed funds in Table D.18. Residential mortgage loans account for two-thirds of the investments made with the guaranteed funds. However, these funds are concentrated in longer term deposits.

The fiduciary role is unique to the trust companies. They serve as administrators of estates, trusts and agencies. They do not own the assets under their administration (also shown in Table D.19). Instead they act with varying degrees of authority as the trustee. One of the major components of this fiduciary business is the administration of trusteed pension plans in respect to groups of employees. Although the assets under administration are very large ($65.9 billion in 1981), their main impact on the financial performance of the trust companies is the

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1 The main differences between trust companies and chartered banks are:
" • Banks cannot offer trust services.
• Trust companies cannot make an unsecured commercial loan.
• Trust companies cannot expand their liabilities beyond a certain multiple of their equity base (banks have no such limitation in law).
• Trust companies are limited ... in the size of their personal loan business.
• Trust companies have no lender of last resort."
Trust Companies Institute of Canada, The Canadian Trust Industry, (1980), p. 5.

fees ($289 million in 1983) earned on the estate, trust and agency work. Fees and commissions from this source have been making a diminishing contribution to trust company earnings (see Table D.20).

Most trust companies also perform a variety of other services which are not included in SIC 701. They carry on extensive real estate sales, for example, and they sponsor a number of mutual funds and registered retirement savings funds. These activities are not discussed in this report, although the real estate sales contributed 5.8 percent in 1983 to total revenues. (See Table D.20).

## 2.2 The Market Environment

The trust and loan companies enjoyed a period of rapid growth in assets in the 1970's. The main thrust of this growth came from their financial intermediary activities where they operated mainly in the medium to long term market. They accepted five year deposits and loaned the funds, mainly in the form of mortgages. However, that stable, fixed rate, long term environment began to change at the end of the decade for two reasons:

- High inflation and interest rates led depositors to switch from five year to short term investments in order to maximize yields. This profoundly altered the characteristics of the industry's source of funds and forced companies to undertake a major transformation in the way they conduct their business, in order to overcome the mismatching of assets and liabilities that developed in the early 1980's.

- The secular slowdown in new house construction and the slower rise in real estate values led to a significant slowdown in the growth in mortgage demand. This forced the trust and loan companies to look in new directions for asset

growth. They have turned first to a new market - loans to consumers and business - and second to an old market - increasing the efficiency of their estate, trust and agency business.

The two key factors determining the growth of the trust and loan companies are the growth in housing markets and the corresponding demand for mortgage financing and the regulatory environment which determines both the amount of competition from other financial institutions and the investment powers of the trust companies.

### 2.2.1 The Demand for Mortgage Financing

The demand for new housing increased rapidly in the 1960's and 1970's in order to provide accommodation for a rapidly growing population and a flood of immigrants. The baby boom generation born between 1947 and 1957 created a surge of housing needs, first for apartments and later for single family dwellings. In addition, the inflation psychology of the 1970's combined with the exemption from capital gains for primary residences created an extra preference for home ownership. This contributed to rapid increases in market values of existing housing which also added to mortgage demand. During the 1970's, personal mortgage credit outstanding increased at an average annual rate of 18.6 percent. However, growth slowed to 9.8 percent in 1980, 5.7 percent in 1981 and only 1.6 percent in 1982. This slowdown occurred at first because high interest rates discouraged new construction and even the resale of new housing. As sales slumped, so did market values, especially in Western Canada. Finally, the demographic pressures began to ease as the bulk of the baby boom generation moved into their thirties and immigration slowed to a trickle. Table D.21 provides an historical perspective on mortgage loan approvals by trust and loan companies in Ontario. The upper section shows

the sharp decline in the number of housing units being financed, with new construction falling more quickly than existing housing. The bottom section shows that the average value of each unit financed has continued to rise, but nevertheless the total value of mortgage loans in Ontario has levelled off in the $1.9 billion to $2.4 billion range, well below the peak levels of $3.5 to $3.7 billion set in 1977 and 1978. Table D.5 shows that the trust and loan companies increased their share of the Canadian market for mortgage loans from 24.2 percent in 1974 to a peak of 25.5 percent in 1979. Their share then slipped back to 23.9 percent in 1982.[1]

In summary, the slump in mortgage loans approved by the trust and loan industry is a reflection of weaker underlying demand rather than a deterioration in their competitive position.

### 2.2.2 Regulatory Environment

Trust and loan companies are regulated by the federal Superintendent of Insurance and by provincial registrars or superintendents. An effort is made to harmonize the federal and provincial laws in order to give a common framework with respect to solvency requirements and investment powers. However, the Quebec law gives considerably more scope to trust companies than do the federal and Ontario laws. Amendments to the federal law have been under discussion for eight years, and the industry is pressing hard for changes that would allow trust companies to compete on a more even basis with the banks.

The Federal Department of Finance has just issued a discussion paper on the regulation of financial

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1 The data have been adjusted to screen out the effect of the bank mortgage subsidiaries.

institutions which recommends that trust companies should be allowed to set up financial holding companies that could own a new class of banks which would have the same powers of schedule A and B banks but would not be subject to the 10 percent limit on ownership of the banks voting stock that applies to the A and B banks.[1]

The Ontario government has a task force in place which is expected to hold hearings in early 1985. The key issues in the law reform are:

- An increase in the so-called basket clause from the current 7 percent to 15 percent of total assets. This would allow the trust companies to diversify their asset base by increasing their loans to consumers and business in direct competition with the banks. Canada Trustco and Royal Trustco are already recruiting senior staff to lead this extension of services into the business lending field.

- A new limit on the concentration of ownership in the trust and loan companies. Ownership of the banks is limited to a maximum holding of 10 percent and there are some who believe a similar rule should be applied to trust companies. The industry itself is opposed to such a rule. Implementation would be disruptive because existing major shareholders of a number of the largest trust companies would be forced to divest part of their holdings:

    - Royal Trust Co., the largest company, by far, is 49 percent owned by Trilon Financial Corp., part of the Brascan group. Trilon also controls London Life.

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[1] Departments of Finance, The Regulation of Canadian Financial Institutions: Proposal for Discussion, April 1985.

- National Victoria and Grey Trust Co. is controlled by the Jackman family which also runs a number of insurance companies.

- Guaranty Trust is controlled by Traders Groups Ltd.

The trust companies have been the targets of a good deal of takeover activity by companies like Trilon which are positioning themselves to provide one-stop financial services through the integration of trust, insurance, and other financial services.

Traditionally, the regulatory framework for financial markets in Canada has been based on the principle of segregation of institutions into the four main "pillars" - banks, trust companies, life insurers and investment dealers. Each one conducts operations involving different notions of risk, pricing and leverage. The regulations are intended to ensure that the firms are solvent, and thus to defend the integrity of the financial system. Over time, the strict regulation of markets has been softened by legislative changes intended to encourage competition and thus to give the customer a better deal - more service at a lower cost. Trust companies were allowed to get into retail deposit-taking in competition with the banks, and life insurers were permitted to set up segregated funds to compete with performance-oriented savings vehicles. The recent Discussion Paper put out by the Department of Finance proposes to dramatically alter the regulatory structure and would encourage financial institutions to offer a wide variety of financial services.

The other major change in regulation has been to allow companies to set up holding companies which create a vehicle for cross-ownership of institutions. The ownership of banks is strictly limited, but this could change if the new federal proposals are put into effect. Life insurers, for example, can form ancillary companies that can buy a trust or general insurance company, even though the life insurance company itself is not permitted to provide trust or general insurance services. Table D.22 provides some examples of how some of the largest and most aggressive financial institutions have already begun to build interlocking corporate ties that connect the four pillars. By maintaining separate companies in each "pillar", regulation can continue in the old way, but the cross ownership creates the potential for convergence of the product line. The trust companies are viewed as a prime vehicle for this convergence because they have a network of retail branches.

The trust industry is experiencing some turbulence created by the wave of mergers and acquisitions, by the adjustment to the changing market environment, and by the prospect of regulatory reform. Profits are still depressed relative to the levels of the early 1970's. Net income as a percent of average assets was 0.53 in 1983, compared to a range of 0.55 to 0.87 between 1971 and 1978 (see Table D.23).

Despite this turbulence, however, the trust and loan companies (excluding the bank mortgage loan subsidiaries) competed successfully for a bigger share of the personal savings dollar. Their share rose from 14.2 percent in 1976 to 15.0 percent in 1980 (See Table D.4). But since 1980, their share has dropped to 14.0 percent. The big gainers of the 1980's have been the trusteed pension plans and Canada Savings Bonds. The banks have also lost market share since 1980.

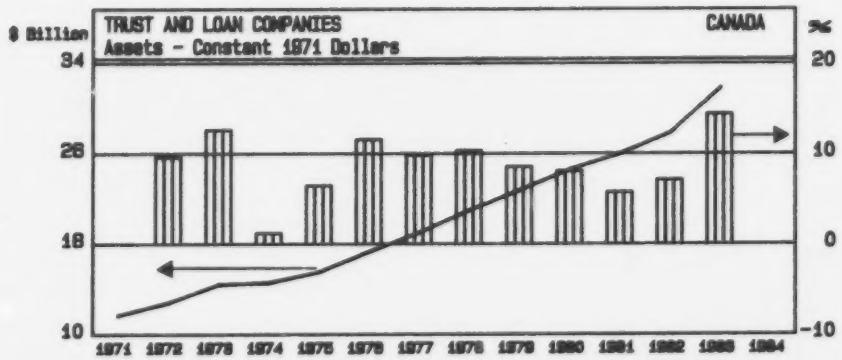
However, a comparison of total assets of selected financial corporations in Table D.6 suggests that the banks have been pulling ahead of the trust companies if adjustment is made for the operations of the bank mortgage loan subsidiaries. Trust and loan companies accounted for 14.6 percent of assets in 1971, and their share in 1983 was about the same - 14.9 percent, while the banks' share increased from 50.1 percent in 1971 to 58.6 percent in 1983.

## 2.3 Industry Trends

Tables D.23 to D.26 present key indicators for the years 1971 to 1984. No information specific to Ontario is available.

### 2.3.1 Aggregate Output

EXHIBIT 6




Total assets of Canadian trust companies increased from $11.6 billion in 1971 to $64.7 billion in 1981 (Table D.23), an average annual rate of increase of 18.7 percent per year. They continued to rise in 1982 and 1983 at an

average annual rate of 19.4 percent and reached $92.3 billion in 1983. Constant dollar assets (see Exhibit 6) rose from $11.6 billion in 1971 to $25.9 billion in 1981, an average annual gain of 8.4 percent. Growth actually accelerated in the next two years to 10.7 percent per year, and constant dollar assets reached $31.8 billion in 1983.

Total revenue of the trust companies did not show such consistent growth. It rose from $817 million in 1972 to $6.2 billion in 1981, an average gain of 25.2 percent per year. Fees and commissions contributed a declining share of total revenue, falling from 21.4 percent in 1971 to 11.1 percent in 1981, so the increases in total revenue were based heavily on the trusts intermediary function and thus on the spread between deposit rates and lending rates. Total revenue increased at an average rate of 4.6 percent from 1981 to 1983 rising to $6.7 billion in 1983. Total revenue in constant dollars rose 17.5 percent per year from $822 million in 1972 to $3.5 billion in 1981. It then declined by 4.4 percent in 1982.

### 2.3.2 Competitive Position

The trust and loan companies' competitive position has been discussed in the Market Environment section. Over the 1970's they have held on to their share of global measures of the marketplace - personal savings and total assets. However, they have lost a sizeable portion of their share of the mortgage loan market to the chartered banks and the bank mortgage loan subsidiaries.

Trust and loan company assets per employee in constant dollars increased from $890 thousand in 1973 to $1,023 thousand in 1979, an average annual gain of 2.4 percent.

Assets per employee fell sharply in 1980 and then recovered for the next three years to reach the level of $1,144 thousand in 1983. The average annual rate of change from 1979 to 1983 was 2.9 percent.

### 2.3.3 Capital Investment

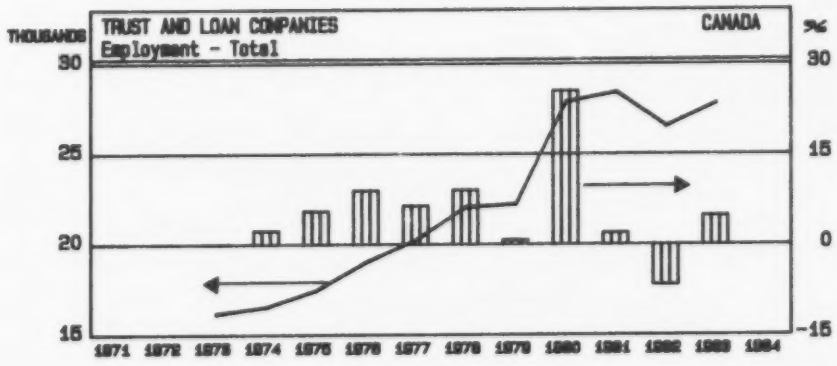
Data on investment are provided only for banks and other deposit accepting institutions. This information is presented on pages 21 and 22 in Section I of this report.

### 2.3.4 Employment

The discussion of employment includes an analysis of aggregate trends and occupational changes.

- Aggregate Trends

EXHIBIT 7




Employment in Canadian trust and loan companies rose from 16,134 in 1973 to 28,387 in 1981, an average increase of 7.3 percent per year. It then declined by 6.7 percent in 1982 and recovered by 4.8 percent

in 1983. The average rate of decline between 1981 and 1983 was 1.1 percent a year.

- Occupational Changes

Data on employment by occupation is available only for banks and trusts combined. See the text on pages 24 and 25, and Tables D.16 and D.17 in Appendix D.

Results of Question 3

## TABLE 17: TRUST COMPANIES

SIC 701

Percent of Firms Planning to Adopt New Technologies by Employment Size (1)

| Technologies | Before 1985 | | | | 1985-1990 | | | | 1990-1995 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Small | Medium | Large | Total | Small | Medium | Large | Total | Small | Medium | Large | Total |
| **CUSTOMER SALES AND SERVICE APPLICATIONS** | | | | | | | | | | | | |
| Automated Teller Machines (ATMs) | 50 | 0 | 100 | 48 | 100 | - | 50 | 61 | - | 100 | 50 | 39 |
| Automatic Cheque Verification | 0 | 0 | 100 | 13 | 50 | 100 | - | 59 | - | - | - | - |
| Pay by Phone | 0 | 0 | 0 | 0 | - | - | - | - | 50 | 100 | 100 | 75 |
| Automatic Debit/Credit Systems | 50 | 0 | 50 | 36 | - | - | 50 | 11 | - | 100 | 100 | 50 |
| Computerized Loan Qualification and Approval | 0 | 0 | 50 | 11 | 100 | 100 | 50 | 89 | - | - | - | - |
| "Smart" Cards (with installed microprocessors) | 0 | 0 | 0 | 0 | - | - | - | - | 50 | 100 | 50 | 64 |
| Home Banking | 0 | 0 | 0 | 0 | - | - | 50 | 11 | 50 | 100 | 50 | 64 |
| Connection to Retail Store Point of Sale Network | 0 | 0 | 0 | 0 | - | - | 50 | 11 | - | 100 | 50 | 39 |
| Computerized Trust Management | 50 | 0 | 100 | 48 | - | 100 | 50 | 39 | - | - | 50 | 11 |
| Computerized Pension Management | 50 | 0 | 100 | 48 | - | 100 | 50 | 39 | - | - | 50 | 11 |
| Securities Transfer/Stock Holder Services | 50 | 0 | 100 | 48 | - | - | 50 | 11 | - | 100 | 50 | 39 |
| Other | 0 | n.r. | 0 | 0 | - | n.r. | 50 | 24 | - | n.r. | 50 | 24 |
| **DESIGN TECHNOLOGIES** | | | | | | | | | | | | |
| 4th Generation Computer Languages | 0 | 0 | 100 | 23 | 100 | - | 50 | 61 | - | 100 | 50 | 39 |
| **ELECTRONIC FUNDS TRANSFER (EFT)** | | | | | | | | | | | | |
| Electronic Funds Transfer (EFT) Interbranch | 0 | 0 | 100 | 23 | 100 | - | 50 | 61 | - | 100 | 50 | 39 |
| EFT Interbank | 0 | 0 | 100 | 23 | 50 | - | 50 | 36 | - | 100 | 50 | 39 |
| EFT Corporate Accounts | 0 | 0 | 0 | 0 | 50 | - | 50 | 36 | - | 100 | 50 | 39 |
| EFT Commercial and Retail Accounts | 0 | 0 | 0 | 0 | 50 | - | 50 | 36 | - | 100 | 50 | 39 |
| Other | 0 | 0 | 0 | 0 | - | - | - | - | - | - | 50 | 11 |
| **OFFICE OR OFFICE AUTOMATION TECHNOLOGIES** | | | | | | | | | | | | |
| Mainframe/Minicomputers | 100 | 100 | 100 | 100 | - | - | 50 | 11 | - | - | 50 | 11 |
| Word Processing | 100 | 100 | 100 | 100 | - | - | 50 | 11 | - | - | 50 | 11 |
| Electronic Filing | 0 | 0 | 0 | 0 | 100 | 100 | 100 | 100 | - | - | 50 | 11 |
| Microcomputers/Personal Computers | 100 | 100 | 100 | 100 | - | - | 50 | 11 | - | - | 50 | 11 |
| Internal Data Base Management Systems | 50 | 100 | 100 | 75 | 50 | 100 | 50 | 64 | - | - | 50 | 11 |
| Local Area Networks (LANs) | 0 | 100 | 50 | 39 | 100 | - | 50 | 61 | - | - | 50 | 11 |
| Computerized Decision Support Systems | 50 | 0 | 50 | 36 | 50 | - | 50 | 36 | - | 100 | 50 | 39 |
| Voice Activated Computers | 0 | 0 | 0 | 0 | - | - | - | - | 100 | 100 | 50 | 89 |
| Artificial Intelligence/Expert Systems | 0 | 0 | 0 | 0 | - | - | 50 | 11 | 50 | 100 | - | 52 |
| Integrated Work Stations | 0 | 0 | 0 | 0 | 100 | - | 100 | 73 | - | 100 | 50 | 39 |
| Other | 0 | 0 | 0 | 0 | - | - | - | - | - | - | - | - |
| **TELECOMMUNICATIONS TECHNOLOGIES** | | | | | | | | | | | | |
| Private Automatic Branch Exchange (PABX) | 50 | 0 | 50 | 36 | 50 | 100 | 100 | 75 | - | - | 50 | 11 |
| Electronic Mail | 0 | 0 | 0 | 0 | 50 | 100 | 100 | 75 | - | - | 50 | 11 |
| Voice Mail | 0 | 0 | 0 | 0 | - | - | 100 | 23 | 50 | 100 | 50 | 64 |
| Facsimile with Built-In Microprocessor (FAX) | 0 | 0 | 0 | 0 | - | 100 | 50 | 39 | 50 | - | 100 | 48 |
| Satellite/Microwave Systems | 0 | 0 | 0 | 0 | 50 | - | - | 25 | - | 100 | 50 | 39 |
| Videotex | 0 | 0 | 0 | 0 | 50 | - | 100 | 48 | - | 100 | 50 | 39 |
| Video Conferencing | 0 | 0 | 0 | 0 | 50 | 100 | 100 | 75 | - | - | 50 | 11 |
| Fibre Optics | 0 | 0 | 0 | 0 | 50 | - | 50 | 36 | - | - | - | - |
| Other | 0 | 0 | 0 | 0 | - | - | - | - | - | - | - | - |

(1) '0' used prior to 1985 to indicate have not adopted. '-' used for period 1985-1990 and 1990-1995 to indicate respondents, at the time of survey, are not planning to adopt this technology or 'don't know'. Responses are not mutually exclusive.
n.r. - no response.

## PART III - FUTURE TRENDS: THE SURVEY RESULTS

### 3.0 ADOPTION OF NEW TECHNOLOGY

This chapter reviews the expected trends in the adoption of new technologies in the trust and loan industry and the factors driving the need and affecting the rate of technology adoption.

### 3.1 New Technologies and Rates of Adoption

The trust and loan industry has been slower than the banks to adopt new computer and communication technologies. However, they are now pushing ahead with investments in internal information management systems, on-line banking and automated banking machines (ABMs). Table D.15 in Appendix D shows the penetration of ABMs. Computers also offer major efficiencies in portfolio management, which is the main mission of the fiduciary operations of the trusts. The text on pages 26 and 27 in Section I of this report is also relevant to the trust and loan companies, although they are at an earlier stage of implementation.

Table 17 summarizes the percentage of firms which adopted new technologies before 1985 and their plans for using these technologies in the next five years and after 1990. The following provides observations on the survey findings.

#### In General

- The large trust companies are more advanced than the small companies in the use of customer sales and service applications and electronic trends transfer, while the two groups are equally advanced in the use of office automation technologies.

- The trust and loan companies expect to make major steps in the use of telecommunications technologies in the next ten years.

- The next ten years will involve adoption of a wide range of technologies for all sizes of firm.

### 3.1.1 Customer Sales and Service Applications

- 48 percent of the industry (50 percent of small companies and 100 percent of large) have adopted automated teller machines, computerized trust and pension management and securities transfer services. Over the next ten years, all the rest of the industry will follow.

- 13 percent of trust companies already use automatic cheques verification and 59 percent will adopt it before 1990.

- Pay by phone services will be adopted by 75 percent of trust companies after 1990.

- 36 percent now use automatic debit/credit systems, 11 percent will adopt them before 1990 and 50 percent after 1990.

- 89 percent will adopt computerized loan approval in the next five years.

- Small cards and home banking will be introduced after 1990.

- Connection to retail store, point of sale network will be introduced after 1990.

### 3.1.2 Electronic Funds Transfer

- 23 percent of trust companies now use EFT for interbranch and interbank transactions. Over the next five years, 61 percent will adopt EFT interbranch and 36 percent will adopt it for interbank, corporate, and commercial and retail transactions. 39 percent will adopt EFT for all these uses after 1990.

### 3.1.3 Design Technologies

- 23 percent have already begun to use 4th generation computer languages, 61 percent will adopt them by 1990 and 39 percent after 1990.

### 3.1.4 Office Automation Technologies

- All the industry now uses mainframe/minicomputers, word processing and micro computers.

- All trust companies plan to adopt electronic filing in the next five years.

- 75 percent now use internal data base management and the remainder will adopt it in the next five years.

- 39 percent use local area networks and the rest will by 1990.

- 36 percent now use computerized decision support systems and another 36 percent will adopt them by 1990, and most of the rest of the industry will by 1995.

- 73 percent will adopt integrated work stations in the next five years.

Results of Question 4

TABLE 18: TRUST COMPANIES — SIC 701

Most Important Factors Driving Need to Adopt New Technologies

| Factor | | Percent of Firms by Employment Size | | | |
|---|---|---|---|---|---|
| | | Small (50-199) | Medium (200-999) | Large (1000+) | Total Firms |
| COMPETITIVE PRESSURES | First | 0 | 100 | 0 | 27 |
| | Second | 0 | 0 | 50 | 11 |
| | Third | 0 | 0 | 0 | 0 |
| | Weighted Importance (1) | 0.0 | 3.0 | 1.0 | 1.1 |
| STRATEGIC | First | 50 | 0 | 0 | 25 |
| | Second | 0 | 0 | 0 | 0 |
| | Third | 0 | 0 | 0 | 0 |
| | Weighted Importance | 1.5 | 0.0 | 0.0 | 0.8 |
| CUSTOMER DEMANDS FOR CHANGES | First | 0 | 0 | 50 | 11 |
| | Second | 0 | 50 | 0 | 14 |
| | Third | 0 | 0 | 0 | 0 |
| | Weighted Importance | 0.0 | 1.0 | 1.5 | 0.6 |
| INCREASE PROFITABILITY | First | 0 | 0 | 50 | 11 |
| | Second | 0 | 0 | 0 | 0 |
| | Third | 50 | 0 | 0 | 25 |
| | Weighted Importance | 0.5 | 0.0 | 1.5 | 0.6 |
| INCREASE PRODUCTIVITY | First | 0 | 0 | 0 | 0 |
| | Second | 0 | 0 | 0 | 0 |
| | Third | 0 | 0 | 50 | 11 |
| | Weighted Importance | 0.0 | 0.0 | 0.5 | 0.1 |
| INCREASE MANAGEMENT INFORMATION | First | 0 | 0 | 0 | 0 |
| | Second | 0 | 0 | 0 | 0 |
| | Third | 50 | 100 | 0 | 52 |
| | Weighted Importance | 0.5 | 1.0 | 0.0 | 0.5 |
| LOWER COSTS | First | 0 | 0 | 0 | 0 |
| | Second | 100 | 50 | 0 | 64 |
| | Third | 0 | 0 | 0 | 0 |
| | Weighted Importance | 2.0 | 1.0 | 0.0 | 1.3 |
| INCREASE SKILLS/ ORGANIZATIONAL CAPABILITY | First | 50 | 0 | 0 | 25 |
| | Second | 0 | 0 | 50 | 11 |
| | Third | 0 | 0 | 0 | 0 |
| | Weighted Importance | 1.5 | 0.0 | 1.0 | 1.0 |
| ALL OTHERS | First | 0 | 0 | 0 | 0 |
| | Second | 0 | 0 | 0 | 0 |
| | Third | 0 | 0 | 50 | 11 |
| | Weighted Importance | 0.0 | 0.0 | 0.5 | 0.1 |

(1) Weighted Importance = (First % x 3) + (Second % x 2) + (Third % x 1)

- Voice activated computers and artificial intelligence systems will become widely used after 1990.

### 3.1.5 Telecommunications Technologies

- 75 percent of trust and loan companies will adopt private automatic branch exchange (PABX), electronic mail and video conferencing in the next five years.

- 23 percent will adopt voice mail by 1990 and 64 percent after 1990.

- 39 percent will adopt FAX by 1990 and 48 percent after 1990.

- 48 percent will adopt videotex by 1990 and 39 percent after 1990.

## 3.2 Forces Driving the Need to Adopt New Technology

A few key forces are driving these firms to adopt new technologies. Table 18 summarizes the responses to a series of open-ended questions. The most important factors (ranked according to the weighted importance shown in the table) are:

- Lower costs,
- Competitive pressures,
- Increase skills/organizational ability, and
- Strategic.

Small and medium sized companies emphasized lower costs and competitive pressures, while large companies focussed on increase profitability and customer demands for changes.

Results of Question 5

## TABLE 19: TRUST COMPANIES

SIC 701

Most Important Factors that Could Slow the Rate of New Technology Adoption

| Factor | | Percent of Firms by Employment Size | | | |
|---|---|---|---|---|---|
| | | Small (50-199) | Medium (200-999) | Large (1000+) | Total Firms |
| ABILITY TO FINANCE | First | 50 | 50 | 50 | 50 |
| | Second | 0 | 0 | 0 | 0 |
| | Third | 0 | 0 | 0 | 0 |
| | Weighted Importance (1) | 1.5 | 1.5 | 1.5 | 1.5 |
| COST OF NEW TECHNOLOGY | First | 0 | 50 | 50 | 25 |
| | Second | 0 | 50 | 50 | 25 |
| | Third | 0 | 0 | 0 | 0 |
| | Weighted Importance | 0.0 | 2.5 | 2.5 | 1.3 |
| COMPETITIVE ENVIRONMENT | First | 0 | 0 | 0 | 0 |
| | Second | 0 | 0 | 0 | 0 |
| | Third | 0 | 0 | 50 | 11 |
| | Weighted Importance | 0.0 | 0.0 | 0.5 | 0.1 |
| POOR ECONOMIC CONDITIONS | First | 0 | 0 | 0 | 0 |
| | Second | 0 | 0 | 50 | 11 |
| | Third | 0 | 0 | 0 | 0 |
| | Weighted Importance | 0.0 | 0.0 | 1.0 | 0.2 |
| LACK OF SKILLS AND/OR KNOW-HOW TO IMPLEMENT | First | 50 | 0 | 0 | 25 |
| | Second | 50 | 50 | 0 | 39 |
| | Third | 0 | 50 | 0 | 14 |
| | Weighted Importance | 2.5 | 1.5 | 0.0 | 1.7 |
| LACK OF NEW TECHNOLOGY STANDARDIZATION | First | 0 | 0 | 0 | 0 |
| | Second | 50 | 0 | 0 | 25 |
| | Third | 50 | 0 | 0 | 25 |
| | Weighted Importance | 1.5 | 0.0 | 0.0 | 0.8 |
| ALL OTHERS | First | 0 | 0 | 0 | 0 |
| | Second | 0 | 0 | 0 | 0 |
| | Third | 0 | 0 | 50 | 11 |
| | Weighted Importance | 0.0 | 0.0 | 0.5 | 0.1 |

(1) Weighted Importance = (First % x 3) + (Second % x 2) + (Third % x 1)

## 3.3 Factors That Could Slow the Rate of Technology Adoption

A few factors could slow the rate at which trust and loan companies adopt new technologies. Table 19 summarizes the results of the survey.

The factors emphasized are as follows:

- Lack of skills and/or know how to implement,
- Ability to finance (small, medium and large all ranked this second),
- Cost of new technology (medium and large companies both ranked this first), and
- Lack of new technology standardization.

In summary, the trust and loan companies will be adopting a wide variety of Customer Sales and Service, Electronic Funds Transfer, Office Automation and Telecommunications technologies over the next ten years. The main reasons for adopting new technologies are to lower costs and to respond to competitive pressures. The main retarding factors are the lack of skills or know how to implement and the ability to finance.

Results of Question 1

TABLE 20: TRUST COMPANIES — SIC 701

Assets in Ontario

Average Annual Compound Rate of Change (in Constant Dollars)

| Firms by Employment Size | Estimated 1983-1984 | Estimated 1984-1985 | Expected 1985-1990 | Expected 1990-1995 |
|---|---|---|---|---|
| Small (50-199) | 7.0 | 6.0 | 7.5 | 8.5 |
| Medium (200-999) | 10.0 | 5.0 | 3.0 | 3.0 |
| Large (1000+) | 10.0 | 8.5 | 8.0 | 7.5 |
| Total Firms | 8.5 | 6.5 | 6.5 | 7.0 |

(1) Rounded to closest 0.5 %

## 4.0 INDUSTRY OUTLOOK TO 1995

This chapter describes the respondents' view of the outlook for the industry in terms of aggregate output (i.e., industry assets in Ontario), investment plans, aggregate employment and changes in occupational structure to 1995.

### 4.1 Output to 1995

Following an 8.4 percent average annual growth rate from 1971 to 1981, the value of Canadian assets (in constant dollars) rose at an annual rate of 10.7 percent from 1981 to 1983 to reach $31.8 billion. The firms surveyed estimated growth in Ontario of 8.5 percent in 1984. They then projected growth of 6.5 percent per year from 1985 to 1990 and of 7.0 percent from 1990 to 1995 (see Table 20). Firms with over 200 employees experienced stronger growth than the small firms from 1983 to 1985. Large and small trust companies anticipate much stronger growth in the future than the medium sized companies (employees of 200 to 999).

Experts in the field have a somewhat more buoyant view forecasting 10 percent per annum growth in output from 1985 to 1995.

### 4.2 Investment Patterns

Capital investment in the Ontario industry is estimated, by the firms surveyed, to be approximately $176 million in the period 1985 to 1990 and $20 million in the period 1990 to 1995; close to 100 percent of that amount will be in machinery and equipment; and 80 to 85 percent of the spending will be related to new technology. Small firms expect to spend considerably more than medium or large firms.

Results of Question 17e

TABLE 21: TRUST COMPANIES — SIC 701

Justifying Financial Investment in New Technology

| Firms by Employment Size | Pay-Back Period: % of Firms Using Pay-Back | Pay-Back Period: Average Period (Years) | Return on Investment: % of Firms Using ROI | Return on Investment: Average Rate (%) |
|---|---|---|---|---|
| Small (50-199) | 100 | 2.5 | 0 | - |
| Medium (200-999) | 0 | - | 100 | 10.0 |
| Large (1000+) | 100 | 4.0 | 100 | 18.0 |
| Total Firms | 80 | 2.8 | 45 | 13.1 |

Answers not mutually exclusive.
- no answer.

Results of Question 17f

TABLE 22: TRUST COMPANIES — SIC 701

Source of Funds for New Technology Spending

| Employment Size | Internal Funds (Percent) | External Funds (Percent) |
|---|---|---|
| Small (50-199) | 50 | 50 |
| Medium (200-999) | 100 | 0 |
| Large (1000+) | 100 | 0 |
| Total Firms | 69 | 32 |

### 4.2.1 Justifying Financial Investment in New Technology

When considering investments in new technology, 80 percent of the firms use the concept of pay-back period in assessing such a decision (Table 21). On average, firms expect a pay back within 3 years. 45 percent of the firms use return on investment (ROI) to evaluate investment decisions. (Some firms use both methods.) On average they expect a 13 percent ROI.

### 4.2.2 Source of New Capital Spending

Trust and loan companies expect to finance 69 percent of their capital programs from internal funds (Table 22). Only small firms will rely on external funds. Medium and large trust companies will rely entirely on internal sources.

## 4.3 Employment to 1995

This section reviews expected trends in employment patterns and outlines the most important factors affecting aggregate employment.

### 4.3.1 Factors Affecting Employment

When asked to identify the most important factors affecting the firm's employment level in Ontario, respondents identified the following, ranked according to weighted importance, as shown in Table 23.

- Introduction of new technologies,
- Overall economic growth,
- Industry wide growth, and
- Profitability/financial strength.

Results of Question 11a,b,c

TABLE 23: TRUST COMPANIES — SIC 701

Most Important Factors Affecting The Firms' Employment in Ontario

| Factor | | Percent of Firms by Employment Size: Small (50-199) | Medium (200-999) | Large (1000+) | Total Firms |
|---|---|---|---|---|---|
| PROFITABILITY/ FINANCIAL STRENGTH | First | 0 | 50 | 0 | 15 |
| | Second | 0 | 0 | 0 | 0 |
| | Third | 0 | 50 | 0 | 15 |
| | Weighted Importance (1) | 0.0 | 2.0 | 0.0 | 0.6 |
| INCREASE SALES/ INCREASE MARKET SHARE | First | 0 | 0 | 100 | 13 |
| | Second | 0 | 0 | 0 | 0 |
| | Third | 0 | 0 | 0 | 0 |
| | Weighted Importance | 0.0 | 0.0 | 3.0 | 0.4 |
| INTRODUCTION OF NEW TECHNOLOGY | First | 0 | 0 | 0 | 0 |
| | Second | 0 | 100 | 100 | 44 |
| | Third | 50 | 0 | 0 | 28 |
| | Weighted Importance | 0.5 | 2.0 | 2.0 | 1.2 |
| INDUSTRY-WIDE GROWTH | First | 0 | 50 | 0 | 15 |
| | Second | 50 | 0 | 0 | 28 |
| | Third | 0 | 0 | 0 | 0 |
| | Weighted Importance | 1.0 | 1.5 | 0.0 | 1.0 |
| OVERALL ECONOMIC GROWTH | First | 50 | 0 | 0 | 28 |
| | Second | 0 | 0 | 0 | 0 |
| | Third | 0 | 0 | 100 | 13 |
| | Weighted Importance | 1.5 | 0.0 | 1.0 | 1.0 |

(1) Weighted Importance = (First % x 3) + (Second % x 2) + (Third % x 1)

Results of Question 11d

## TABLE 24: TRUST COMPANIES — SIC 701

### Firms' Employment Trends in Ontario

Total Employment and Average Annual Compound Rate of Change (1)

| Firms by Employment Size | Estimated Rate 1981-1984 | Estimated Rate 1984-1985 | Expected Rate 1985-1990 | Expected Rate 1990-1995 |
|---|---|---|---|---|
| Small (50-199) | -1.0 | 2.5 | -1.0 | -0.5 |
| Medium (200-999) | 13.5 | 1.5 | 3.0 | 2.0 |
| Large (1000+) | -4.0 | -0.5 | 2.0 | 2.0 |
| Total Firms | -2.0 | 0.5 | 1.0 | 1.0 |

(1) Rounded to closest 0.5%.

However, all the large companies mentioned ability to increase market share as the most important factor.

### 4.3.2 Employment Outlook

From 1973 to 1981, employment in the trust and loan industry grew at an annual rate of 7.3 percent. During 1982, employment dropped 6.7 percent. The survey findings suggest that these job losses were not entirely made up by 1984. Employment dropped 2.0 percent per year from 1981 to 1984. It increased by 0.5 percent in 1985 and is expected to rise at an average rate of 1 percent per year from 1985 to 1995 (see Table 24). The smaller firms generally expected employment to decline while firms with over 200 employees expect increases of 2 to 3 percent per year over the next 10 years.

Experts in the field are just as optimistic as the medium and large firms. They anticipate employment growth of 2 to 4 percent from 1985 to 1995.

### 4.3.3 Trends in Part-Time Work

Part-time employment will become much more important to the trust and loan industry. In 1981 and 1984 only 15 to 16 percent of total employment was part-time. In 1985 it will rise to 17.5 percent and is expected to be 21 percent in 1990 and to be 25 percent in 1995. All firms expect an increase in part-time work. The largest relative change will be in small firms (from 8.5 percent now to 18.0 percent in 1995). Large trust companies will rely on part-time employees for one quarter of their staff by 1990.

## 4.4 Changes in Occupational Structure

Table 25 shows trends in occupational structure (i.e., percent of total industry employment by occupation) in the trust and loan industry from 1981 to 1995. While the total number of jobs in most occupational groups is expected to increase, the relative rates of growth will differ, with the result that the survey shows shifts in the proportion of the work force in the following occupational groups.

- An increase in Managerial, Administrative and Related occupations from 26 percent in 1985 to over 29 percent in 1990 with little change from 1990 to 1995.

- A doubling in the share of Natural Sciences, Engineering and Mathematics occupations from 5.5 percent in 1985 to 9.2 percent in 1990 and 11.2 percent in 1995.

- A sharp decline in Clerical occupations from 65.6 percent in 1985 to 59.1 percent in 1990, and a further decline to 57.1 percent in 1995.

To conclude, trust and loan companies expect to experience strong asset growth averaging 6.5 to 7 percent per year over the next ten years, but the growth in employment will average only 1 percent per year over the same period. Investment will be heavily concentrated in machinery and equipment and 80 to 85 percent of that investment will be related to new technology. The fastest growth in employment will occur in managerial and computer related occupations. There will be a sharp reduction in clerical staff and a significant increase in the importance of part-time employment.

Results of Question 12

TABLE 25: TRUST COMPANIES — SIC 701

Trends in Firms' Occupational Structure

| Occupations | Percent of Total Employment by Selected Occupational Categories | | | | |
|---|---|---|---|---|---|
| | Estimated | | | Expected | |
| | 1981 | 1984 | 1985 | 1990 | 1995 |
| MANAGERIAL, ADMINISTRATIVE AND RELATED | 22.9 | 25.8 | 26.0 | 29.3 | 29.5 |
| • Financial Management | | + | 0 | + | 0 |
| • Financial Officers | | + | 0 | + | 0 |
| • All Other Managerial | | 0 | 0 | 0 | 0 |
| NATURAL SCIENCES, ENGINEERING AND MATHEMATICS | 2.8 | 5.2 | 5.5 | 9.2 | 11.2 |
| • Systems Analysts and Computer Programmers | | + | 0 | 0 | + |
| CLERICAL | 71.4 | 66.2 | 65.6 | 59.1 | 57.1 |
| • Clerical Supervisors | | 0 | 0 | 0 | 0 |
| • Secretaries | | - | 0 | 0 | 0 |
| • Typists/Clerk Typists (includes Word Processing Operators) | | - | 0 | 0 | 0 |
| • Bookkeepers and Accounting Clerks | | - | 0 | 0 | 0 |
| • Bank Finance Clerks | | 0 | 0 | - | 0 |
| • EDP Equipment Operators | | + | 0 | + | 0 |
| • General Office Clerks | | - | 0 | - | 0 |
| • Cashiers and Tellers | | - | 0 | - | 0 |
| • All Other Clerks | | 0 | 0 | 0 | - |
| OTHER OCCUPATIONS | 2.8 | 2.8 | 2.8 | 2.3 | 2.2 |
| TOTAL | 100% | 100% | 100% | 100% | 100% |

+ increase - decrease 0 no change

## 5.0 EMPLOYMENT EFFECTS OF NEW TECHNOLOGY

This chapter reviews the survey results on the employment effects of new technology in terms of skills match and requirements, and impact on skill levels and job content.

### 5.1 Effects on Occupations

Table 26, over, summarizes firms' expectations of technology impacts on occupational requirements. There is consensus that many occupations will be in short supply within their organizations.

- Financial officers (all firms mentioned this occupation),
- Systems analysts and computer programmers (also mentioned by all firms), and
- Other Managerial occupations (64%).

The occupations where an oversupply may occur will be:

- General office clerks (100%),
- Typists/clerk typists (75%),
- Bank finance clerks (73%),
- Cashiers and tellers (73%),
- Personnel and related (61%), and
- EDP equipment operators (52%).

### 5.2 Likely Steps to Deal With Skills Oversupply

In dealing with a potential oversupply of skills in their organizations, the most commonly cited steps which would affect the largest number of people were attrition and layoffs (see Table 27). Layoffs were mentioned most frequently for clerical staff.

Results of Question 6

TABLE 26: TRUST COMPANIES

SIC 701

Impact of Technology on Selected Occupations in Firms 1985-1995

| Occupations | Percent of Firms | | |
|---|---|---|---|
| | Oversupply | Shortage | No Response |
| MANAGERIAL, ADMINISTRATIVE AND RELATED | | | |
| • Financial Management | 0 | 100 | 0 |
| • Financial Officers | 61 | 39 | 0 |
| • All Other Managerial | 25 | 64 | 11 |
| NATURAL SCIENCES, ENGINEERING AND MATHEMATICS | | | |
| • Systems Analysts and Computer Programmers | 0 | 100 | 0 |
| CLERICAL | | | |
| • Clerical Supervisors | 36 | 25 | 39 |
| • Secretaries | 39 | 50 | 11 |
| • Typists/Clerk Typists (includes Word Processing Operators) | 75 | 25 | 0 |
| • Bookkeepers and Accounting Clerks | 100 | 0 | 0 |
| • Bank Finance Clerks | 73 | 0 | 27 |
| • EDP Equipment Operators | 52 | 25 | 23 |
| • General Office Clerks | 100 | 0 | 0 |
| • Cashiers and Tellers | 73 | 0 | 27 |
| OTHER OCCUPATIONS | 0 | 36 | 64 |

Results of Question 7

TABLE 27: TRUST COMPANIES — SIC 701

Steps Firms Will Likely Take to Deal With OVERSUPPLY of Skills 1985-1995

| Occupations | Most Commonly Cited | Second Most Common | Third Most Common |
|---|---|---|---|
| MANAGERIAL, ADMINISTRATIVE AND RELATED | | | |
| • Financial Officers | Attrition | Layoff | Early Retirement |
| • All Other Managerial | Attrition | Early Retirement | (1) |
| CLERICAL | | | |
| • Clerical Supervisors | Layoff | Retrain | Attrition |
| • Secretaries | Attrition | Retrain | Lateral Transfer |
| • Typists/Clerk Typists (includes Word Processing Operators) | Attrition | Layoff | Lateral Transfer |
| • Bookkeepers and Accounting Clerks | Layoff | Attrition | Retrain |
| • Bank Finance Clerks | Layoff | Attrition | Retrain |
| • EDP Equipment Operators | Attrition | Layoff | Lateral Transfer |
| • General Office Clerks | Layoff | Attrition | Lateral Transfer |
| • Cashiers and Tellers | Layoff | Attrition | Retrain |

(1) Only two steps mentioned.

Results of Question 8

TABLE 28: TRUST COMPANIES — SIC 701

Steps Firms Will Likely Take to Deal With SHORTAGE of Skills 1985-1995

| Occupations | Most Commonly Cited | Second Most Common | Third Most Common |
|---|---|---|---|
| MANAGERIAL, ADMINISTRATIVE AND RELATED | | | |
| • Financial Management | Recruit | Retrain | (1) |
| • Financial Officers | Upgrade | Recruit | (1) |
| • All Other Managerial | Recruit | Upgrade | Retrain |
| NATURAL SCIENCES, ENGINEERING AND MATHEMATICS | | | |
| • Systems Analysts and Computer Programmers | Recruit | Contract Out | Retrain |
| CLERICAL | | | |
| • Clerical Supervisors | Recruit | Retrain | (1) |
| • Secretaries | Recruit | Retrain | (1) |
| • Typists/Clerk Typists (includes Word Processing Operators) | Recruit | Retrain | (1) |
| • EDP Equipment Operators | Recruit | Recruit | (1) |
| OTHER OCCUPATIONS | n.a. | n.a. | n.a. |

(1) Only two steps mentioned.
n.a. no answer

| Response | Most Common | Second Most Common | Third Most Common |
|---|---|---|---|
| Attrition | 5 | 4 | 1 |
| Layoffs | 5 | 3 | - |
| Retraining | - | 2 | 3 |
| Lateral Transfer | - | - | 4 |
| Early Retirement | - | 1 | 1 |

## 5.3 Likely Steps to Cope With Skills Shortages

In coping with anticipated skill shortages, the most commonly cited steps shown in Table 28 were recruit, retrain and upgrade. Upgrading was mentioned only for managerial occupations. Recruiting was the most common choice for clerical and systems jobs.

| Response | Most Common | Second Most Common | Third Most Common |
|---|---|---|---|
| Recruit | 7 | 3 | - |
| Retrain | - | 4 | 2 |
| Upgrade | 2 | 1 | - |
| Contract Out | - | 1 | - |

## 5.4 Technology Impact on Skill Levels and Job Content

Respondents were asked to rank the impact of new technologies on selected occupations in terms of:

- skills required,
- time to achieve proficiency, and
- knowledge of firm's operations.

The results are summarized in Table 29. Respondents expected skills required to rise in the Managerial, Systems and Clerical occupations listed below. In general, they expected the time required to achieve proficiency to rise in these same occupations.

Results of Question 9

## TABLE 29: TRUST COMPANIES

SIC 701

Impact of Technology on Skill Levels and Job Content

(1) Percent of Firms

| Occupations | Skills Required | | | Time to Achieve Proficiency | | | Knowledge of Firm's Operations | | |
|---|---|---|---|---|---|---|---|---|---|
| | + | - | 0 | + | - | 0 | + | - | 0 |
| MANAGERIAL, ADMINISTRATIVE AND RELATED | | | | | | | | | |
| • Financial Management | 73 | 0 | 27 | 61 | 0 | 39 | 25 | 0 | 75 |
| • Financial Officers | 100 | 0 | 0 | 100 | 0 | 0 | 73 | 0 | 27 |
| • All Other Managerial | 100 | 0 | 0 | 89 | 0 | 11 | 64 | 0 | 36 |
| NATURAL SCIENCES, ENGINEERING AND MATHEMATICS | | | | | | | | | |
| • Systems Analysts and Computer Programmers | 100 | 0 | 0 | 77 | 0 | 23 | 36 | 0 | 64 |
| CLERICAL | | | | | | | | | |
| • Clerical Supervisors | 100 | 0 | 0 | 89 | 0 | 11 | 64 | 0 | 36 |
| • Secretaries | 100 | 0 | 0 | 89 | 0 | 11 | 64 | 0 | 36 |
| • Typists/Clerk Typists (includes Word Processing Operators) | 100 | 0 | 0 | 77 | 0 | 23 | 0 | 0 | 100 |
| • Bookkeepers and Accounting Clerks | 64 | 36 | 0 | 52 | 25 | 23 | 0 | 0 | 100 |
| • Bank Finance Clerks | 36 | 36 | 28 | 25 | 36 | 39 | 25 | 0 | 75 |
| • EDP Equipment Operators | 75 | 0 | 25 | 64 | 0 | 36 | 11 | 0 | 89 |
| • General Office Clerks | 36 | 36 | 28 | 25 | 36 | 39 | 25 | 11 | 64 |
| • Cashiers and Tellers | 36 | 36 | 28 | 25 | 36 | 39 | 25 | 0 | 75 |
| OTHER OCCUPATIONS | n.a. | | | n.a. | | | n.a. | | |

+ increase - decrease 0 remain the same

(1) Non-responses excluded.

n.a. no answer

- Financial officers,
- All other managerial,
- Systems analysts,
- Clerical supervisors,
- Secretaries, and
- Typists and clerk typists.

There was less consensus about a possible increase in the need for knowledge of the firm's operations.

## 5.5 Training Costs and New Technology

Trust and loan companies estimate that they currently spend 3.0 to 3.5 percent of their total labour costs on training. This will rise to about 4 percent over the next ten years. Between 30 and 36 percent of the training costs currently are related to new technology, compared to 12 percent in 1981.

By 1990, about 45 percent of all training costs will be related to new technology. Small firms now attribute much more than medium sized and large firms to technology but this will reverse over the next ten years. Small firms also invest a higher portion of total labour costs in training (5.5 percent versus 1.0 to 1.5 percent for medium and large firms). This differential will persist over the next ten years.

## 6.0 LABOUR RELATIONS ENVIRONMENT

This chapter discusses the labour relations environment in the industry.

### 6.1 Industrial Relations Environment: Historical

Less than 1 percent of the total work force in the trust and loan industry is unionized. Most of the employees with unionized employees are credit unions. See Table 15, page 52, for a list of the unions active in this industry.

### 6.2 Trends in Unionization

The survey suggests that firms with less than 200 employees are more likely to have a union than larger firms. In fact, 50 percent of the small trust companies interviewed have a union. Firms were not asked whether they expect a greater share of firms to become unionized over the next ten years.

For firms with unions, less than 1 percent of their work force is unionized. Firms anticipate little change in the percentage of unionization within firms which already have a union.

### 6.3 Technology Change Clauses

None of the firms surveyed replied to the question about technology change clauses.

### 6.4 Management's Perception of their Union's Position on New Technology

None of the firms replied to the question about how managers perceive that the union accepts the need to adopt new technology.

## 6.5 Nature of Worker Involvement in the Process of Technological Change

Firms were asked whether they had a formal mechanism for worker participation in setting production and/or sales targets, improving productivity/quality, and adopting new technology. The following summarize the survey results.

- 60 percent of the companies have a mechanism for worker involvement in setting production or sales targets at some level in the organization.

- 68 percent have a mechanism for worker involvement for improving productivity/quality.

- 40 percent have a mechanism for worker involvement for adopting new technology. This includes 50 percent of small firms and 50 percent of large firms, but no medium sized ones.

## 6.6 Views on Involving Workers in Decisions on Adopting New Technology

Companies were also asked to what extent and how should management involve workers in decisions regarding the adoption of new technologies.

Managers were divided in their views on the extent of involvement. Approximately 55 percent favoured prior consultation or full involvement, while 14 percent (including 50 percent of the large firms) favoured no involvement at all.

In summary, less than 1 percent of trust and loan company employees are unionized and firms expect little change over the next ten years. Only 40 percent of the companies have a mechanism for worker involvement for adopting new technologies.

About 55 percent of the firms interviewed favour prior consultation or full involvement of employees in the implementation of technology change.

## 7.0 PLANNING FOR TECHNOLOGICAL CHANGE

The following chapter reports the results of the survey regarding questions related to planning for technological change (see Table 30).

In general, 100 percent of the firms with 200 or more employees and 50 percent of the small firms have a strategic plan. 50 percent of the small firms and 100 percent of the large firms also have a human resource plan. Other results are summarized below.

- 53 percent of the firms have a human resource plan, covering an average of 5 years.
- 25 percent of the firms have a capital investment plan, with a planning horizon of 6 years.
- 73 percent of the firms have a strategic long range plan.

The firms' average planning horizon is 5 years. This is much longer than the expected three year pay-back period for new machinery and equipment. For the firms that have both human resource and capital plans, these plans are well integrated.

Results of Question 18

## TABLE 30: TRUST COMPANIES

SIC 701

Planning for Technological Change

| Firms by Employment Size | Strategic Plan | Human Resource Plan | | Capital Investment Plan | | Perceived Integration Between Capital and Human Plans (1) |
|---|---|---|---|---|---|---|
| | Percent of Firms With Plan | Percent of Firms With Plan | Length of Planning Horizon | Percent of Firms With Plan | Length of Planning Horizon | |
| Small (50-199) | 50 | 50 | 6 years | 0 | 0 years | 0.0 |
| Medium (200-999) | 100 | 0 | 0 years | 0 | 0 years | 0.0 |
| Large (1000+) | 100 | 100 | 3 years | 100 | 6 years | 4.5 |
| Total Firms | 73 | 53 | 5 years | 25 | 6 years | 4.5 |

(1) Using a scale of 1 to 5; 1 represents "Not at all integrated" and 5 "Highly integrated".

## PART IV - APPENDICES

Part IV of this report presents the appendices referred to in Sections I and II.

These appendices are:

| Appendix | Title | Reference |
|---|---|---|
| A | Firm Employment Size Categories Used in the Survey of the Chartered Banks and Trust Industry | Part I |
| B | Questionnaires<br>Responses by Question<br>Chartered Banks<br>Trust and Loan Companies | Part I<br>Part III |
| C | Reliability of the Sample | Part I |
| D | Historical Tables, Chartered Banks and Trust Industry | Part II |

APPENDIX A

# FIRM EMPLOYMENT SIZE CATEGORIES USED IN THE SURVEY OF THE CHARTERED BANKS AND TRUST INDUSTRY

APPENDIX A

## FIRM EMPLOYMENT SIZE CATEGORIES USED IN THE SURVEY OF THE CHARTERED BANKS AND TRUST INDUSTRY

| Size Categories Used to Stratify the Sample Frame | | Size Categories Used to Weight and Report Survey Results | |
|---|---|---|---|
| Number of Employees | | | Number of Employees |
| 50 - 99 | | Small | 50 - 199 |
| 100 - 199 | | | |
| 200 - 499 | | Medium | 200 - 999 |
| 500 - 999 | | | |
| 1000 - 1499 | | | |
| 1500 - 2499 | | Large | 1,000 or more |
| 2500 - 4999 | | | |
| 5000 or more | | | |

APPENDIX B

# QUESTIONNAIRE

AND

# RESPONSES BY QUESTION

# ONTARIO TASK FORCE ON EMPLOYMENT AND NEW TECHNOLOGY

**CHARTERED BANKS**
**(SIC 701 8)**
**QUESTIONNAIRE**

Currie, Coopers & Lybrand

## INTRODUCTION

Thank you for agreeing to participate in the study. It is being carried out for the Ontario Task Force on Employment and New Technology, a joint labour-management group. Their mandate is to examine the extent and nature of employment change likely to result from the introduction and application of new technology in Ontario over the next ten years.

**You Will Receive The Survey Results**
As a participant, you will receive a report on the survey results for your industry.

**All Responses Will Be Confidential**
All responses will be held in strictest confidence. Responses will be analysed and used only at an industry-wide level.

**Both Organized Labour and Management Are Being Surveyed**
Management and organized labour participants, in the case of unionized firms, will both receive a questionnaire. We realize that labour participants may not be able to answer some of the questions. In particular, they may find difficulty in answering questions: 10, 11, 12, 13 and 17.

**Participants May Want to Consult Key Resource People in Responding**
The questionnaire is not necessarily meant to be completed by only one respondent. It may be appropriate and even desirable for survey participants to consult other key resource people in their firm before responding to the questionnaire. Respondents should indicate on the Participant Information (p.4), the "principle respondent" and "other respondents" as well as the Section(s) of the questionnaire to which they contributed.



**You Will Save Time if Information is Filled in Before the Interview**
A number of questions relate to your firm's past or present workforce and future plans. We are requesting management respondents to provide accurate information from their organization's records in advance of the interview. This step will reduce the time needed for the actual interview and also make it more meaningful. The Participant Information (p.4) and the following questions should be filled in prior to the management interview: 3, 6 to 13 inclusive, 15 and 17.

**Group Interviews Are Possible**
In some cases the principle respondent may want to arrange a group interview between himself, key resource people and our consultant. We would welcome such an arrangement. This option is open to either management or labour participants.

**You May Wish to Complete the Entire Questionnaire Before the Interview**
The entire questionnaire could be completed in advance of the interview. If this is convenient, please do so. We would, however, still wish to spend a half-hour with you to review your responses.

**Your "Best" Estimate**
Where estimates are required, we are asking respondents to provide us with their "best estimate". Estimating future trends is difficult. Our premise is that an expert inside the organization is in the best position to make them, based on his or her knowledge of the firm's future direction.

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EXHIBIT A

SELECTED OCCUPATIONS: CHARTERED BANKS, TRUST & LOAN COMPANIES, SIC 701

MANAGERIAL, ADMINISTRATIVE & RELATED

**Financial Management** (e.g., Branch Manager, Department Manager, Regional Bank Manager, Credit Manager).
**Financial Officers** (e.g., Controller, Accountant, Auditor, Financial Officers - Mortgage Approval, Credit Analysis, Foreign Exchange Trading).
**All Other Managers & Administrators** (includes senior and middle management and support functions such as personnel officers not listed above).

NATURAL SCIENCE, ENGINEERING & MATHEMATICS

**Systems Analysts & Computer Programmers.**

CLERICAL

**All Clerical Supervisors**
**Secretaries**
**Typists/Clerk Typists** (includes Word Processing Operators).
**Bookkeepers & Accounting Clerks**
**Cashiers & Tellers**
**Bank/Finance Clerks** (e.g., Mortgage Clerk, Brokerage Clerk, Ledger Clerk, Superannuation Clerk).
**EDP Equipment Operators**
**General Office Clerks**



**The Study is Focusing on Selected Occupations**

The Task Force for your industry is focusing on chosen major occupational groups and selected occupations within these major groups. These are listed in Exhibit A. The job titles and definitions being used are from the "Canadian Classification and Dictionary of Occupations, 1971" (CCDO). The CCDO is a universal system of job titles and descriptions. Our consultants are available to assist you or your staff in clarifying which of your firm's positions should be considered in the CCDO titles listed in Exhibit A.

**Please Call If You Have Any Enquiries**

Should you or your staff require any assistance, please call Sandra Skivsky of our firm or the consultant who will be interviewing you, at 366-1921.

**Your Participation Is Appreciated**

While we appreciate that your participation in the survey puts a demand on your time and organization, we would emphasize that your contribution will have an important impact on the results of this project.

PARTICIPANT INFORMATION

COMPANY NAME: _____
UNION NAME (If appropriate): _____
AFFILIATED ORGANIZATIONS: _____
MAIN ADDRESS: _____
TELEPHONE NUMBER: (  ) _____

BRIEF DESCRIPTION OF OPERATION IN ONTARIO

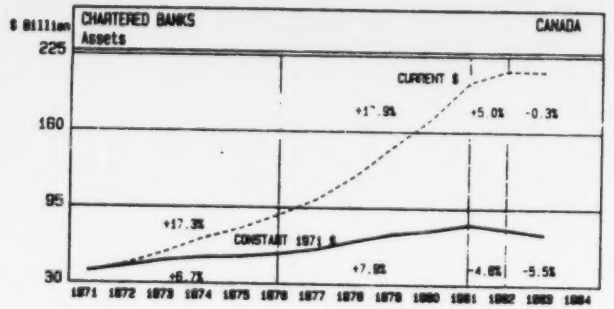
| Divisions/Branches/Affiliates | Products/Services |
|---|---|
| | |
| | |
| | |
| | |

SURVEY PARTICIPANTS

| Names | Position | Number of Years With Company | Number of Years With Industry | Check (✓) Sections Answered II | III | IV | V | VI | VII |
|---|---|---|---|---|---|---|---|---|---|
| | | | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| (principal respondent) | | | | | | | | | |
| | | | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| (other respondents) | | | | | | | | | |
| | | | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| | | | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| | | | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

CHART 1

INDUSTRY-WIDE ASSETS IN CANADA*




* Source: Bank of Canada Review.

Note: A change in accounting implemented November 1, 1981 makes data for 1981 on not strictly comparable to earlier years.

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1. INDUSTRY-WIDE CHARTERED BANKS ASSETS IN ONTARIO

Chart 1, opposite, illustrates assets for Chartered Banks in CANADA in current dollars (dotted line) and in constant dollars (current dollars adjusted for price changes, solid line).

The rates shown for the first four time periods listed below are expressed in annual compound rates of change (in constant dollars).

Using these rates as a guide, please estimate the annual compound rates of change (in constant dollars) of your industry in ONTARIO for the next four periods listed.

| Assets in Canada | Annual Compound Rate of Change (in constant dollars) |
|---|---|
| 1971 to 1976 | +6.7 % |
| 1976 to 1981 | +7.9 % |
| 1981 to 1982 | -4.8 % |
| 1982 to 1983 | -5.5 % |

| Assets in Ontario | Your Estimates (Indicate if + or -) |
|---|---|
| 1983 to 1984? | ___ % |
| 1984 to 1985? | ___ % |
| 1985 to 1990? | ___ % |
| 1990 to 1995? | ___ % |

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2. INDUSTRY-WIDE OUTLOOK - EMPLOYMENT IN ONTARIO

The table below indicates total employment and annual compound rates of change for employment in the Chartered Banks in ONTARIO between 1971 and 1983. (Source: The Canadian Bankers' Association. Reporting method changed in 1979 from employees during the month to employees at last pay period, thereby affecting the number of part-time employees.)

Would you please indicate your estimates for the four following periods listed below (i.e., 1984-1995). Provide your estimates in actual numbers or in annual compound rates of change, whichever is easier.

For your information, total employment covers full-time, part-time, temporary, casual and contract - i.e., total "head count".

| Total Employment in Ontario | | Annual Compound Rates of Change | |
|---|---|---|---|
| 1971 | 38,803 | | |
| 1981 | 65,731 | 1971-1981 | +5.4 % |
| 1982 | 64,601 | 1981-1982 | -1.7 % |
| 1983 | 64,199 | 1982-1983 | -0.6 % |

Your Estimates:

| | | | (Indicate if + or -) |
|---|---|---|---|
| 1984? | _____ OR | 1983-1984? | ___ % |
| 1985? | _____ OR | 1984-1985? | ___ % |
| 1990? | _____ OR | 1985-1990? | ___ % |
| 1995? | _____ OR | 1990-1995? | ___ % |

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## 3. FIRM'S ADOPTION OF TECHNOLOGIES

The following questions refer to new technologies your firm has already or may adopt over the next ten years in ONTARIO.

3a. Please indicate the technologies that have already been adopted by your firm. Record your answer on Chart 3, opposite, under column 3a.

3b. Please indicate the technologies that will probably be adopted by your firm between 1985 and 1990. Record your answer on Chart 3, under column 3b. It may be appropriate to check more than one time period.

3c. Please indicate the technologies that will probably be adopted by your firm between 1991 and 1995. Record your answer on Chart 3, under column 3c. It may be appropriate to check more than one time period.

CHART 3

TECHNOLOGIES ADOPTED OR TO BE ADOPTED BY THE FIRM

| | 3a ADOPTED IN 1984 OR BEFORE | 3b WILL BE ADOPTED BETWEEN 1985-1990? | 3c WILL BE ADOPTED BETWEEN 1991-1995? |
|---|---|---|---|
| **1. CUSTOMER SALES & SERVICE APPLICATIONS** | | | |
| Automated Teller Machines (ATMs) | ☐ | ☐ | ☐ |
| Automatic Cheque Verification | ☐ | ☐ | ☐ |
| Pay by Phone | ☐ | ☐ | ☐ |
| Automatic Debit/Credit Systems | ☐ | ☐ | ☐ |
| Computerized Loan Qualification & Approval | ☐ | ☐ | ☐ |
| "Smart" Cards (with Installed Microprocessors) | ☐ | ☐ | ☐ |
| Home Banking | ☐ | ☐ | ☐ |
| Connection to Retail Store Point of Sale Network | ☐ | ☐ | ☐ |
| Computerized Trust Management | ☐ | ☐ | ☐ |
| Computerized Pension Management | ☐ | ☐ | ☐ |
| Securities Transfer/Stock Holder Services | ☐ | ☐ | ☐ |
| Any Others? _____ | ☐ | ☐ | ☐ |
| _____ | ☐ | ☐ | ☐ |
| **2. ELECTRONIC FUNDS TRANSFER (EFT)** | | | |
| Electronic Funds Transfer (EFT) Interbranch | ☐ | ☐ | ☐ |
| EFT Interbank | ☐ | ☐ | ☐ |
| EFT Corporate Accounts | ☐ | ☐ | ☐ |
| EFT Commercial & Retail Accounts | ☐ | ☐ | ☐ |
| Any Others? _____ | ☐ | ☐ | ☐ |
| _____ | ☐ | ☐ | ☐ |
| **3. OFFICE AUTOMATION TECHNOLOGIES** | | | |
| Mainframe/Minicomputers | ☐ | ☐ | ☐ |
| Word Processing | ☐ | ☐ | ☐ |
| Electronic Filing | ☐ | ☐ | ☐ |
| Microcomputers | ☐ | ☐ | ☐ |
| Internal Data Base Management Systems | ☐ | ☐ | ☐ |
| Local Area Networks (LAN) | ☐ | ☐ | ☐ |
| 4th Generation Computer Languages | ☐ | ☐ | ☐ |
| Computerized Decision Support Systems | ☐ | ☐ | ☐ |
| Voice Activated Computers | ☐ | ☐ | ☐ |
| Artificial Intelligence/Expert Systems | ☐ | ☐ | ☐ |
| Fully Integrated Work Stations | ☐ | ☐ | ☐ |
| Any Others? _____ | ☐ | ☐ | ☐ |
| _____ | ☐ | ☐ | ☐ |
| **4. TELECOMMUNICATIONS TECHNOLOGIES** | | | |
| Private Automatic Branch Exchange (PABX) | ☐ | ☐ | ☐ |
| Electronic Mail | ☐ | ☐ | ☐ |
| Voice Mail | ☐ | ☐ | ☐ |
| Facsimile with Installed Microprocessor (FAX) | ☐ | ☐ | ☐ |
| Satellite/Microwave Systems | ☐ | ☐ | ☐ |
| Videotex | ☐ | ☐ | ☐ |
| Video Conferencing | ☐ | ☐ | ☐ |
| Fibre Optics | ☐ | ☐ | ☐ |
| Any Others? _____ | ☐ | ☐ | ☐ |
| _____ | ☐ | ☐ | ☐ |
| HAVE/WILL NOT ADOPT ANY NEW TECHNOLOGIES IN THIS PERIOD | ☐ | ☐ | ☐ |

4. FORCES DRIVING THE FIRM'S NEED FOR NEW TECHNOLOGIES OVER THE NEXT 10 YEARS

4a. What is the **single most important driving factor** in your firm's internal or external environment which could accelerate your firm's need to adopt these new technologies over the next 10 years in ONTARIO?

4b. What is the **second most important factor** likely to accelerate your firm's need to adopt these new technologies?

4c. And what is the **third most important factor**?





5. FACTORS AFFECTING THE FIRM'S RATE OF TECHNOLOGY ADOPTION OVER THE NEXT 10 YEARS

5a. What is the **single most important factor** in your firm's internal or external environment that could <u>slow down</u> the speed at which your firm will adopt these new technologies over the next 10 years in ONTARIO?

5b. What is the **second most important** factor that could slow down your firm's adoption of these new technologies?

5c. And what is the **third most important factor**?

6. IMPACT OF TECHNOLOGY ON OCCUPATIONS OVER THE NEXT 10 YEARS

The following questions attempt to determine impacts on specific occupations you expect to be caused by the adoption of new technologies in your firm over the next 10 years in ONTARIO.

6a. Please indicate the **occupations** in which your firm is likely to have an **oversupply of people** over the next 10 years as a result of the adoption of these new technologies. Record your answer on Chart 6, opposite, under column 6a.

6b. Please indicate the **occupations** in which you expect your firm will have a **shortage of the skills** required to cope with these new technologies. Record your answer on Chart 6, under column 6b.

CHART 6

IMPACT OF TECHNOLOGIES ON SELECTED OCCUPATIONS IN YOUR FIRM OVER THE NEXT 10 YEARS

| | 6a OCCUPATIONS WITH AN OVERSUPPLY OF SKILLS | 6b OCCUPATIONS WITH A SHORTAGE OF THE REQUIRED SKILLS |
|---|---|---|
| **MANAGERIAL, ADMINISTRATIVE & RELATED** | | |
| • Financial Management | ☐ | ☐ |
| • Financial Officers | ☐ | ☐ |
| • All Other Managers & Administrators (not listed above) | ☐ | ☐ |
| **NATURAL SCIENCE, ENGINEERING & MATHEMATICS** | | |
| • Systems Analysts & Computer Programmers | ☐ | ☐ |
| **CLERICAL** | | |
| • All Clerical Supervisors | ☐ | ☐ |
| • Secretaries | ☐ | ☐ |
| • Typists/Clerk Typists | ☐ | ☐ |
| • Bookkeepers & Accounting Clerks | ☐ | ☐ |
| • Cashiers & Tellers | ☐ | ☐ |
| • Bank/Finance Clerks | ☐ | ☐ |
| • EDP Equipment Operators | ☐ | ☐ |
| • General Office Clerks | ☐ | ☐ |
| ANY OTHER OCCUPATIONS SIGNIFICANTLY AFFECTED? WHICH ONES? | | |
| _____ | ☐ | ☐ |
| _____ | ☐ | ☐ |
| _____ | ☐ | ☐ |



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7. ACTIONS TO DEAL WITH OVERSUPPLY OF SKILLS IN FIRM OVER NEXT 10 YEARS

The following questions relate to the actions your firm will likely take to deal with the oversupply of people in your firm resulting from the adoption of these new technologies in ONTARIO.

7a. For each occupation with a potential oversupply of skills (as you indicated in Q.6a), please identify the steps your firm will likely take that will affect the **largest number of people** in that occupation. Record your answers on Chart 7, opposite, under column 7a.

In answering this and the following question, please consider the possible actions listed below as well as any other possible action not in the list but that your firm is likely to take.

Possible Actions

- Attrition
- Early Retirement
- Layoffs
- Relocation (geographic)
- Shorter hours/work week
- Job sharing
- Change from full-time to part-time
- Retraining
- Lateral transfer
- Upgrading
- Downgrading
- Etc., etc.

7b. Again, for each of these occupations, identify the step your firm may take that will affect the **second largest number of people** in that occupation. Record on Chart 7, under column 7b.



CHART 7

STEPS FIRM WILL LIKELY TAKE
TO DEAL WITH OVERSUPPLY OF SKILLS OVER NEXT 10 YEARS

| OCCUPATIONS | 7a STEPS THAT WILL AFFECT THE LARGEST NUMBER OF PEOPLE IN THIS OCCUPATION | 7b STEPS THAT WILL AFFECT THE 2ND LARGEST NUMBER OF PEOPLE IN THIS OCCUPATION |
|---|---|---|
| **MANAGERIAL, ADMINISTRATIVE & RELATED** | | |
| • Financial Management | | |
| • Financial Officers | | |
| • All Other Managers & Administrators (not listed above) | | |
| **NATURAL SCIENCE, ENGINEERING & MATHEMATICS** | | |
| • Systems Analysts & Computer Programmers | | |
| **CLERICAL** | | |
| • All Clerical Supervisors | | |
| • Secretaries | | |
| • Typists/Clerk Typists | | |
| • Bookkeepers & Accounting Clerks | | |
| • Cashiers & Tellers | | |
| • Bank/Finance Clerks | | |
| • EDP Equipment Operators | | |
| • General Office Clerks | | |
| ANY OTHER OCCUPATIONS SIGNIFICANTLY AFFECTED? WHICH ONES? | | |
| _____ | | |
| _____ | | |
| _____ | | |

8. STEPS TO ACQUIRE THE NEW SKILL REQUIREMENTS OVER THE NEXT 10 YEARS

The following questions are intended to identify the most likely steps your firm may take to acquire the new skill requirements associated with the new technologies over the next 10 years in ONTARIO.

8a. Please indicate, for each occupation with a potential shortage of the new skill requirements (as you indicated in Q6b), the step your firm will likely take that will affect the largest number of people in that occupation. Record your answers on Chart 8, column 8a.

Please consider the possible actions listed below as well as any other action (not listed) that your firm is likely to take.

Likely Steps

- Retraining
- Relocation
- Upgrading
- Increased overtime of firm's skilled people
- Recruiting full-time skilled people
- Recruiting part-time skilled people
- Contracting work out
- Etc., etc.

8b. Please indicate, for each occupation, the step your firm may take that will affect the second largest number of people in that occupation. Record your answers in column 8b.

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CHART 8

STEPS FIRM WILL TAKE
OVER NEXT 10 YEARS TO ACQUIRE THE NEW SKILL REQUIREMENTS

| OCCUPATIONS | 8a STEP WHICH WILL AFFECT THE LARGEST NUMBER OF PEOPLE IN THIS OCCUPATION | 8b STEP WHICH WILL AFFECT THE 2ND LARGEST NUMBER OF PEOPLE IN THIS OCCUPATION |
|---|---|---|
| **MANAGERIAL, ADMINISTRATIVE & RELATED** | | |
| • Financial Management | | |
| • Financial Officers | | |
| • All Other Managers & Administrators (not listed above) | | |
| **NATURAL SCIENCE, ENGINEERING & MATHEMATICS** | | |
| • Systems Analysts & Computer Programmers | | |
| **CLERICAL** | | |
| • All Clerical Supervisors | | |
| • Secretaries | | |
| • Typists/Clerk Typists | | |
| • Bookkeepers & Accounting Clerks | | |
| • Cashiers & Tellers | | |
| • Bank/Finance Clerks | | |
| • EDP Equipment Operators | | |
| • General Office Clerks | | |
| ANY OTHER OCCUPATIONS SIGNIFICANTLY AFFECTED? WHICH ONES? | | |
| _____ | | |
| _____ | | |
| _____ | | |

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9. NATURE OF IMPACT ON SKILLS AND JOB CONTENT OVER THE NEXT TEN YEARS

The following questions are meant to identify the nature of the impact on selected occupations in ONTARIO.

9a. For selected occupations in your firm, please indicate how the new technologies will affect each in their daily work. That is, will their daily work require greater skill (+), less skill (-), or about the same skill (0) as they currently require. Record your answers on Chart 9, opposite, under Column 9a.

9b. Please indicate whether the new skills they require will demand more time (+), less time (-), or about the same time (0) to achieve the proficiency that they will need. Record your answers on Chart 9, column 9b.

9c. Please indicate whether, in using these new technologies, these occupations will require more knowledge (+) of the company's operations, less knowledge (-), or about the same (0) amount of knowledge as is currently required to perform their daily tasks. Record your answers on Chart 9, under 9c.

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CHART 9

IMPACT OF TECHNOLOGY ON SKILL LEVELS AND JOB CONTENT

| | 9a SKILLS REQUIRED (+, -, 0) | 9b TIME TO ACHIEVE PROFICIENCY (+, -, 0) | 9c KNOWLEDGE OF COMPANY'S OPERATIONS (+, -, 0) | COMMENTS |
|---|---|---|---|---|
| **MANAGERIAL, ADMINISTRATIVE, & RELATED** | | | | |
| • Financial Management | — | — | — | _____ |
| • Financial Officers | — | — | — | _____ |
| • All Other Managers & Administrators (not listed above) | — | — | — | _____ |
| **NATURAL SCIENCE, ENGINEERING & MATHEMATICS** | | | | |
| • Systems Analysts & Computer Programmers | — | — | — | _____ |
| **CLERICAL** | | | | |
| • All Clerical Supervisors | — | — | — | _____ |
| • Secretaries | — | — | — | _____ |
| • Typists/Clerk Typists | — | — | — | _____ |
| • Bookkeepers & Accounting Clerks | — | — | — | _____ |
| • Cashiers & Tellers | — | — | — | _____ |
| • Bank/Finance Clerks | — | — | — | _____ |
| • EDP Equipment Operators | — | — | — | _____ |
| • General Office Clerks | — | — | — | _____ |
| ANY OTHER OCCUPATIONS SIGNIFICANTLY AFFECTED? WHICH ONES? | | | | |
| _____ | — | — | — | _____ |
| _____ | — | — | — | _____ |
| _____ | — | — | — | _____ |

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## 10. TRAINING/RETRAINING

These questions are about the current and future importance of training and retraining in your organization.

10a. Please indicate what were your firm's total training costs as a percent of total labour costs in 1981. Record your answer on Chart 10, line 10a.

Training costs include the costs of internally or externally provided training programs, classroom and on-the-job workshops, vouchers or tuition credits, provided by your firm, which are intended to train employees to perform their jobs or to retrain employees to assume new or alternate jobs. Labour costs include all wages, salaries and benefits. (e.g., $\frac{\text{Total Training Costs}}{\text{Total Labour Costs}} \times 100 = 1.0\%$)

10b. Please indicate what your firm's total training costs as a percent of total labour costs will be in 1984 (to year end). Record your answer on line 10b.

10c. What do you estimate for 1985, (line 10c)?

10d. What do you estimate it will be in 1990, (line 10d)?

10e. What do you estimate it will be in 1995, (line 10e)?

10f. For each year on Chart 10, (line 10a to 10e), please indicate what percent of total training costs in each year have or will go towards training people to adapt to the new technologies.

CHART 10

TRAINING COSTS OF FIRM

| | | | As a Percent of Total Labour Costs | Percent of Total Training Costs Directly Related to New Technologies |
|---|---|---|---|---|
| 10a. | 1981? | Actual | ___% | ___% |
| 10b. | 1984? | Estimate | ___% | ___% |
| 10c. | 1985? | Estimate | ___% | ___% |
| 10d. | 1990? | Estimate | ___% | ___% |
| 10e. | 1995? | Estimate | ___% | ___% |



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## 11. FIRM'S EMPLOYMENT TRENDS

In this section, we would like to determine how the firm's employment levels in ONTARIO are likely to change over the next 10 years.

11a. To begin, considering all possible factors in your firm's internal and external environment, what is the single most important factor which will have an impact on your firm's level of employment in ONTARIO over the next 10 years? _____

_____

11b. The second most important factor? _____

_____

11c. The third most important factor? _____

_____

11d. Please indicate total employees (includes full-time, temporary, contract, casual, seasonal and part-time employment) in your organization in ONTARIO for 1971, 1981 and 1984 from your employment records. Record your answers on Chart 11, column 11d.

Please estimate future total employment in your organization in ONTARIO for 1985, 1990 and 1995.

11e. Please indicate the percent of your total employment in ONTARIO that are part-time employees (i.e., less than normal full work week), for 1981 and 1984. Record your answers on Chart 11, column 11e.

Also in column 11e, please estimate part-time employees as a percent of total employees in ONTARIO for 1985, 1990 and 1995.





11f. Please translate your total ONTARIO employment (include full-time, part-time, casual, temporary, seasonal) into a full-time equivalent (F.T.E.) figure for your firm for 1981 and 1984 in column 11f.

Also in column 11f, please estimate total employment in terms of a full-time equivalent (F.T.E.) for 1985, 1990 and 1995.

By F.T.E. we mean a normal, full, work week for a normal, full year. F.T.E. can be measured in a variety of ways depending on whatever is normal for your firm or industry. For example, if expressed in hours of work per year one FTE might range from 1750 to 2000 hours of work a year depending on the length of the normal work week (e.g., 35 hours/week x 50 weeks = 1750 hours, 40 hours/week x 50 weeks = 2000 hours.)

CHART 11

FIRM'S EMPLOYMENT TRENDS IN ONTARIO

| | 11d TOTAL EMPLOYMENT IN ONTARIO | 11e PART-TIME EMPLOYEES AS A % OF TOTAL EMPLOYMENT | 11f TOTAL EMPLOYMENT IN FULL-TIME EQUIVALENT (F.T.E.) |
|---|---|---|---|
| **Actual Figures** | | | |
| 1971? | _____ | | |
| 1981? | _____ | _____ % | _____ FTE |
| 1984? | _____ | _____ % | _____ FTE |
| **Your Estimates** | | | |
| 1985? | _____ | _____ % | _____ FTE |
| 1990? | _____ | _____ % | _____ FTE |
| 1995? | _____ | _____ % | _____ FTE |

## 12. CHANGES IN EMPLOYMENT STRUCTURE

This section is intended to measure the changes in the employment structure of your firm in ONTARIO between 1981 and 1995.

12a. Please indicate the actual percentage share of <u>each</u> occupation listed as a percent of your firm's total employment in ONTARIO in 1981. Record your answer on Chart 12, column 12a.

12b. Please indicate the actual percentage share of <u>each</u> selected occupation listed as a percent of your firm's total employment in ONTARIO in 1984. Record your answer in column 12b.

12c. Please estimate the same for each selected occupation in 1985. Record in column 12c.

12d. Please estimate the same for each selected occupation in 1990. Record in column 12d.

12e. Please estimate the same for each selected occupation in 1995. Record in column 12e.

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CHART 12

TRENDS IN FIRM'S OCCUPATIONAL STRUCTURE BETWEEN 1981 AND 1995

| | OCCUPATIONS AS A PERCENT OF TOTAL EMPLOYMENT OF THE FIRM IN ONTARIO | | | | | |
|---|---|---|---|---|---|---|
| | 12a Actual 1981 | 12b Actual 1984 | 12c Estimate 1985 | 12d Estimate 1990 | 12e Estimate 1995 | |
| | % | % | % | % | % | |
| **MANAGERIAL, ADMINISTRATIVE, & RELATED** | ☐ | ☐ | ☐ | ☐ | ☐ | 1a |
| • Financial Management | ___ | ___ | ___ | ___ | ___ | |
| • Financial Officers | ___ | ___ | ___ | ___ | ___ | |
| • All Other Managers & Administrators (not listed above) | ___ | ___ | ___ | ___ | ___ | |
| **NATURAL SCIENCE, ENGINEERING & MATHEMATICS** | ☐ | ☐ | ☐ | ☐ | ☐ | 2a |
| • Systems Analysts & Computer Programmers | ___ | ___ | ___ | ___ | ___ | |
| • All Other Natural Science, Engineering & Mathematics (not listed above) | ___ | ___ | ___ | ___ | ___ | |
| **CLERICAL** | ☐ | ☐ | ☐ | ☐ | ☐ | 3a |
| • All Clerical Supervisors | ___ | ___ | ___ | ___ | ___ | |
| • Secretaries | ___ | ___ | ___ | ___ | ___ | |
| • Typists/Clerk Typists | ___ | ___ | ___ | ___ | ___ | |
| • Bookkeepers & Accounting Clerks | ___ | ___ | ___ | ___ | ___ | |
| • Cashiers & Tellers | ___ | ___ | ___ | ___ | ___ | |
| • Bank/Finance Clerks | ___ | ___ | ___ | ___ | ___ | |
| • EDP Equipment Operators | ___ | ___ | ___ | ___ | ___ | |
| • General Office Clerks | ___ | ___ | ___ | ___ | ___ | |
| • All Other Clerks (not listed above) | ___ | ___ | ___ | ___ | ___ | |
| **ALL OTHER OCCUPATIONS** | ☐ | ☐ | ☐ | ☐ | ☐ | 4a |
| * FIRM'S TOTAL EMPLOYMENT IN ONTARIO (1+2+3+4 = 100%) | 100% | 100% | 100% | 100% | 100% | |

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13. EMPLOYMENT STRUCTURE BY SEX

The following questions refer to your firm's employment in ONTARIO by sex for each specific occupation listed in Chart 13.

13a. Please provide the percentage split between male and female of your employees in ONTARIO by each occupation in 1981. Record your answer on Chart 13, column 13a.

13b. Please provide the percentage split between male and female employees by occupation in ONTARIO in 1984. Record your answer in Column 13b.

CHART 13

EMPLOYMENT STRUCTURE BY SEX AND OCCUPATION IN ONTARIO

| | 13a 1981 EMPLOYMENT MALE | FEMALE | TOTAL | 13b 1984 EMPLOYMENT MALE | FEMALE | TOTAL |
|---|---|---|---|---|---|---|
| **MANAGERIAL, ADMINISTRATIVE & RELATED** | | | | | | |
| • Financial Management | ___% + | ___% | =100% | ___% + | ___% | =100% |
| • Financial Officers | ___% + | ___% | =100% | ___% + | ___% | =100% |
| • All Other Managers & Administrators (not listed above) | ___% + | ___% | =100% | ___% + | ___% | =100% |
| **NATURAL SCIENCE, ENGINEERING & MATHEMATICS** | | | | | | |
| • Systems Analysts & Computer Programmers | ___% + | ___% | =100% | ___% + | ___% | =100% |
| **CLERICAL** | | | | | | |
| • All Clerical Supervisors | ___% + | ___% | =100% | ___% + | ___% | =100% |
| • Secretaries | ___% + | ___% | =100% | ___% + | ___% | =100% |
| • Typists/Clerk Typists | ___% + | ___% | =100% | ___% + | ___% | =100% |
| • Bookkeepers & Accounting Clerks | ___% + | ___% | =100% | ___% + | ___% | =100% |
| • Cashiers & Tellers | ___% + | ___% | =100% | ___% + | ___% | =100% |
| • Bank/Finance Clerks | ___% + | ___% | =100% | ___% + | ___% | =100% |
| • EDP Equipment Operators | ___% + | ___% | =100% | ___% + | ___% | =100% |
| • General Office Clerks | ___% + | ___% | =100% | ___% + | ___% | =100% |
| **FIRM'S TOTAL EMPLOYEES IN ONTARIO** | ___% + | ___% | =100% | ___% + | ___% | =100% |



SIC 701 B

14. ORGANIZED LABOUR IN YOUR FIRM IN ONTARIO

14a. Does your firm have any workers in ONTARIO covered by a collective labour agreement(s)?

Yes ☐ No ☐ If so, go on to Question 14c.

14b. If yes, what percent of your firm's total employment in ONTARIO is currently (1984) unionized?

____%

14c. What percent of your firm's total employment in ONTARIO do you estimate will be unionized by 1985, 1990 and by 1995?

- 1985? ____%
- 1990? ____%
- 1995? ____%

14d. If you expect an increase in the percent of total employment that will be unionized, please indicate the specific occupational groups within which you expect the increase will take place.

_____

_____





15. ORGANIZED LABOUR AND TECHNOLOGY CHANGE

If any of the employees in your firm in ONTARIO are represented by a union, please answer the following series of questions. If none of the workers in your firm in ONTARIO are unionized, please go on to Question 16, p. 22.

15a. Please indicate the name of the union(s) in your firm in ONTARIO. Record your answers on Chart 15, on line 15a.

15b. On line 15b, please indicate the number of the firm's employees in ONTARIO in each union.

15c. On line 15c, indicate the worker groups in your firm the union(s) represents.

15d. On line 15d, check ☑ if the contract(s) has a technology change clause(s).

15e. On line 15e, check ☑ if the technology change clause(s) covers any of the following:

- Notice/Disclosure
- Consultation/Participation
- Joint Technology Change Committee
- Job Security
- Seniority
- Other (please specify).

15f. On line 15f, indicate whether the clause(s) is effectively administered? If your answer is "NO", please explain your answer.

CHART 15

ORGANIZED LABOUR IN ONTARIO

| | (name of union) | (name of union) | (name of union) |
|---|---|---|---|
| 15a. Name of Unions in Firm | | | |
| 15b. Number of Firm's Employees in Each Union | | | |
| 15c. Worker Groups Represented by Each Union | | | |
| | | | |
| 15d. Does Union(s) Contract(s) Have a Technology Change Clause(s)? | | | |
| YES | ☐ | ☐ | ☐ |
| NO | ☐ | ☐ | ☐ |
| 15e. Check ☑ if Technology Change Clause(s) Includes: | | | |
| • Notice/Disclosure | ☐ | ☐ | ☐ |
| • Consultation/Participation | ☐ | ☐ | ☐ |
| • Joint Technology Change Committee | ☐ | ☐ | ☐ |
| • Job Security | ☐ | ☐ | ☐ |
| • Seniority | ☐ | ☐ | ☐ |
| • Other _____ (specify) | ☐ | ☐ | ☐ |
| 15f. Is the Clause Effectively Administered? | | | |
| YES | ☐ | ☐ | ☐ |
| NO | ☐ | ☐ | ☐ |
| If 'NO', explain | | | |
| | | | |

SIC 701 B

15g. In general, what has been the union's position on the adoption of new technologies in your firm? Please explain.

_____

_____

_____

_____

_____

SIC 701 B

16. THE NATURE OF WORKER INVOLVEMENT IN THE PROCESS OF TECHNOLOGY ADOPTION

The following questions are on the nature of the relationship between workers and management in your firm as decisions are made on the adoption of new technology.

16a. Does your firm have a formal mechanism for worker participation in any of the following? Please Check ☑ Yes or No

| | YES | NO |
|---|---|---|
| • Setting production and/or sales targets: | | |
| - at company level? | ☐ | ☐ |
| - at division/plant level? | ☐ | ☐ |
| - at department/area level? | ☐ | ☐ |
| - at working group level? | ☐ | ☐ |
| • Improving productivity/quality? | ☐ | ☐ |
| • Adoption of new technology? | ☐ | ☐ |

16b. In your opinion, to what extent and how should management involve workers in decisions regarding the adoption of new technologies? Please comment.

_____

_____

_____

_____

_____

_____

17. FUTURE CAPITAL INVESTMENTS

17a. Please indicate how much, **in today's dollars**, your firm plans to spend on **construction of structures and buildings** in ONTARIO over the period 1985 to 1990 and over the period 1991 to 1995. Record your answer on Chart 17, column 17a.

17b. What percent of this spending can be directly attributed to the adoption of **new technologies**? Record under column 17b.

17c. Would you indicate how much, **in today's dollars**, your firm plans to spend on **machinery and equipment** over the period 1985 to 1990 and over the period 1991 to 1995 in ONTARIO. Record under column 17c.

17d. What percent of this spending on **machinery and equipment** will be for **new technologies**? Record under column 17d.

17e. Please indicate what criterion your firm will likely use to justify the financial investment in the new technologies.

Pay-back period ☐ _____

Return on investment ☐ If Yes, how long? _____

Other _____ ☐ If Yes, what rate? _____

(specify) Please elaborate

17f. Considering now your total capital investment in new technology over the next 10 years, what percent will be funded through internal funds and what percent will be funded through external funds?

Internal funds ____%

External funds ____%

100%

SIC 701 B

CHART 17

CAPITAL INVESTMENT PLANS
IN ONTARIO

| | INVESTMENT IN STRUCTURES & BUILDINGS | | INVESTMENT IN MACHINERY & EQUIPMENT | |
|---|---|---|---|---|
| | 17a | 17b | 17c | 17d |
| | IN TODAY'S DOLLARS (In Thousands $) | % DIRECTLY RELATED TO NEW TECHNOLOGY | IN TODAY'S DOLLARS (In Thousands $) | % FOR NEW TECHNOLOGY |
| 1985 to 1990? | $_____ | _____% | $_____ | _____% |
| 1991 to 1995? | $_____ | _____% | $_____ | _____% |

SIC 701 B

18. PLANNING FOR CHANGES IN TECHNOLOGY

These questions ask about your firm's plans for adopting new technologies in ONTARIO.

18a. Does your firm currently have a long-term strategic plan?

Yes ☐ No ☐

18b. Does your firm have a plan to deal with future human resource needs?

Yes ☐ No ☐ If no, go to Question 18d.

18c. Up to what year has your firm planned for its human resource needs?

_____
(WRITE IN YEAR)

18d. Does your firm have a capital investment plan dealing with the adoption of new technologies?

Yes ☐ No ☐ If no, go to Question 19. on p. 25.

18e. Up to what year has your firm planned for its capital requirements?

_____
(WRITE IN YEAR)

18f. On a scale of 1 to 5, please indicate to what extent these two plans (capital investment and human resource plans) are integrated.

(Please circle answer)

NOT AT ALL INTEGRATED 1 2 3 4 5 HIGHLY INTEGRATED





19. Please indicate below any other comments on the issue of employment and new technology you wish to make.

_____

_____

_____

_____

_____

_____

_____

_____

THANK YOU FOR YOUR PARTICIPATION

## CHARTERED BANKS

### Number of Firms and Unions Responding by Question

| Question | | Firms | Question | | Firms |
|---|---|---|---|---|---|
| Question 1 | 1982-1983 | 0 | Question 12 | a,b,c,d,e | 6 |
| | 1983-1984 | 0 | | | |
| | 1984-1985 | 7 | | | |
| | 1985-1990 | 7 | Question 13 | | * |
| | 1990-1995 | 7 | | | |
| Question 2 | | * | Question 14 | a | 8 |
| | | | | b | 2 |
| | | | | c | 8 |
| Question 3 | a,b,c | 8 | | d | 1 |
| Question 4 | a,b,c | 8 | Question 15 | a | 3 |
| | | | | b | 3 |
| | | | | c | * |
| Question 5 | a,b,c | 8 | | d | 3 |
| | | | | e | 2 |
| | | | | f | 1 |
| Question 6 | a,b | 8 | | g | 2 |
| Question 7 | a | 6 | Question 16 | a | 6 |
| | b | 4 | | b | 5 |
| Question 8 | a | 8 | Question 17 | a | 4 |
| | b | 8 | | b | 4 |
| | | | | c | 4 |
| | | | | d | 4 |
| Question 9 | a | 8 | | e | 7 |
| | b | 8 | | f | 5 |
| | c | 8 | | | |
| | | | Question 18 | a | 8 |
| Question 10 | a,b,c,d,e | 8 | | b | 8 |
| | | | | c | 7 |
| Question 11 | a,b,c, | 6 | | d | 7 |
| | d | 8 | | e | 5 |
| | e | 8 | | f | 5 |
| | f | 8 | | | |

* Data not used and therefore, number of responses not reported.

## TRUST COMPANIES

### Number of Firms and Unions Responding by Question

| Question | | Firms | Question | | Firms |
|---|---|---|---|---|---|
| Question 1 | 1982-1983 | 6 | Question 12 | a,b,c,d,e | 6 |
| | 1983-1984 | 5 | | | |
| | 1984-1985 | 6 | | | |
| | 1985-1990 | 6 | Question 13 | | * |
| | 1990-1995 | 6 | | | |
| Question 2 | | * | Question 14 | a | 6 |
| | | | | b | 1 |
| | | | | c | 6 |
| Question 3 | a,b,c | 6 | | d | 3 |
| Question 4 | a,b,c | 6 | Question 15 | a | 6 |
| | | | | b | 0 |
| | | | | c | * |
| Question 5 | a,b,c | 6 | | d | 0 |
| | | | | e | 0 |
| | | | | f | 0 |
| Question 6 | a,b | 6 | | g | 0 |
| Question 7 | a | 6 | Question 16 | a | 6 |
| | b | 5 | | b | 5 |
| Question 8 | a | 6 | Question 17 | a | 4 |
| | b | 6 | | b | 5 |
| | | | | c | 5 |
| | | | | d | 5 |
| Question 9 | a | 6 | | e | 6 |
| | b | 6 | | f | 5 |
| | c | 6 | | | |
| | | | Question 18 | a | 6 |
| Question 10 | a,b,c,d,e | 6 | | b | 6 |
| | | | | c | 3 |
| Question 11 | a,b,c, | 4 | | d | 6 |
| | d | 6 | | e | 2 |
| | e | 6 | | f | 2 |
| | f | 6 | | | |

* Data not used and therefore, number of responses not reported.

APPENDIX C

# RELIABILITY OF THE SAMPLE

## SAMPLE RELIABILITY

The sample reliability is summarized with other sample and population characteristics in "Table 1". The sample was selected as a three stage stratified random sample. The purpose of this stratification was to reduce the error variance in the measurement of organization size by increasing the homogeneity of each group of organizations within each strata.

The first stage consisted in creating two industry sectors (i.e. manufacturing and services). The second stage involved dividing up each industry sector into nine and fourteen industrial sub-classes respectively and according to Standard Industrial Classification codes (see Table 1). The third stage was to further stratify each SIC into three more homogeneous size groups:

| Manufacturing Sector | Service Sector |
|---|---|
| Small 20- 99 employees | 20-199 employees |
| Medium 100-499 employees | 200-999 employees |
| Large 500+ employees | 1,000+ employees |

Exceptions to these three size groupings are as follows:

| SECTOR | ORGANIZATION SIZE EXCLUSION |
|---|---|
| Manufacturing Sector | |
| 291 Iron & Steel Mills | less than 500 |
| 321 Aircraft & Aircraft Parts | less than 50 |
| Service Sector | |
| 701 Banks and Trusts | less than 50 |
| 721 General and Life Insurance | less than 50 |
| 735 Insurance Brokers | less than 50 |
| 909 Federal Government | less than 500 |
| 931 Provincial Government | less than 200 |
| 951 Local Government | less than 500 |

Overall, the sample yields a relatively high reliability level in reflecting the employment level of those sectors surveyed. For instance, the sample for Chartered Banks yields a minimum confidence level of about 95 percent with an associated allowable error of 5 percent. That is, we would expect that the estimated employment level for the sector has a 95 percent chance of being within $\pm$ 5 percent of the actual employment level found in the frame. Or stated alternatively, if 100 independent random samples were drawn, in 95 of these samples we would expect to have an estimated employment level within $\pm$ 5 percent of the actual employment level found in the sample frame.

The sample for the Trust Companies yields a minimum confidence level of about 90 percent with an associated allowable error of 15 percent. That is, we would expect that the estimated employment level for the sector has a 90 percent chance of being within $\pm$ 15 percent of the actual employment level found in the frame. Or stated alternatively, if 100 independent random samples were drawn, in 90 of these samples we would expect to have an estimated employment level within $\pm$ 15 percent of the actual employment level found in the sample frame.

TABLE 1: SUMMARY - SELECTED SERVICE INDUSTRIES

SAMPLE FRAME AND SAMPLE

| SIC | SIC NAME | UNIVERSE | | SAMPLE FRAME | | | | SAMPLE | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Number of Firms | Number of Employees | Firm Size Cut Off | Number of Firms | Number of Employees | Share of Universe | Number of Firms | Number of Unions | Number of Employees | Reliability Level (min.) (Percent) | Allowable Error (Percent) |
| 701 | Chartered Banks | 68 | 64,200 | 50 | 16 | 60,300 | 94 | 8 | | 43,883 | 95 | 5 |
| 701 | Trust Companies | 41 | 20,000 | 50 | 22 | 19,000 | 95 | 6 | | 8,466 | 90 | 15 |
| 721 | Life Insurance | 45 | 31,200 | $10 MM | 26 | 28,200 | 90 | 6 | | 6,355 | 95 | 5 |
| 721 | General Insurance | 94 | 20,000 | $10 MM | 51 | 19,000 | 95 | 8 | | 2,128 | 95 | 9 |
| 735 | Insurance Brokers | 2,737 | 31,600 | 50 | 45 | 6,300 | 20 | 8 | | 1,213 | 90 | 11 |
| 909 | Federal Government | 67 | 91,000 | 500 | 22 | 69,000 | 76 | 8 | 2 | 28,350 | 90 | 11 |
| 931 | Provincial Government | 37 | 84,000 | 200 | 19 | 67,000 | 80 | 8 | | 37,599 | 90 | 11 |
| 951 | Local Government | 837 | 107,474 | 500 | 39 | 83,782 | 78 | 10 | 7 | 23,832 | 90 | 13 |
| 544 | Telephone Systems and Interconnects | 111 | 30,423 | 20 | 37 | 29,430 | 97 | 8 | 1 | 26,444 | 90 | 23 |
| 545 | Telegraph and Cable Systems | 4 | 2,543 | 20 | 4 | 2,543 | 100 | 3 | 1 | 2,116 | 90 | 20 |
| 631 | Food Stores | n.a. | 87,600 | 100 | 45 | 85,000 | 97 | | Expert Interviews Only | | | |
| 642 | General Merchandise Stores | n.a. | 92,000 | 100 | 12 | 76,000 | 83 | | Expert Interviews Only | | | |
| 853 | Computer Services | n.a. | 16,775 | 20 | 41 | 11,800 | 70 | 6 | | 291 | 90 | 17 |
| 867 | Management and Business Consultants | n.a. | 10,975 | 20 | 40 | 5,900 | 54 | 8 | | 1,070 | 95 | 6 |

APPENDIX D

# HISTORICAL TABLES

CHARTERED BANKS, TABLES D.1 TO D.17

TRUST AND LOAN COMPANIES, TABLES D.18 TO D.26

TABLE D.1

MAJOR CHARTERED BANKS IN CANADA
FISCAL YEAR 1983

| | TOTAL ASSETS $ MILLION | MARKET SHARE PERCENT |
|---|---|---|
| Royal Bank of Canada | 84,682 | 24.7 |
| Canadian Imperial Bank of Commerce | 68,112 | 19.8 |
| Bank of Montreal | 63,194 | 18.4 |
| Bank of Nova Scotia | 54,809 | 16.0 |
| Toronto-Dominion Bank | 42,488 | 12.4 |
| National Bank of Canada | 17,775 | 5.2 |
| Mercantile Bank of Canada | 4,107 | 1.2 |
| Bank of British Columbia | 3,058 | 0.9 |
| Continental Bank of Canada | 5,037 | 1.5 |
| Total Assets of Nine Banks | 343,262 | 100.0 |

SOURCE: A. Roy Palmer, Bunting, Quarterly Bank Review, January, 1984.

TABLE D.2

SOURCES OF CHARTERED BANK REVENUES

| | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|---|---|
| | | | | $ MILLION | | | |
| Interest Income* | 10,880.3 | 13,726.5 | 20,857.0 | 29,263.7 | 44,877.3 | 48,696.9 | 36,528.7 |
| Less: Interest Expense | (7,025.6) | (9,184.7) | (15,932.3) | (23,646.6) | (37,884.3) | (41,198.7) | (27,671.5) |
| Net Interest Income | 3,854.7 | 4,541.8 | 4,924.7 | 5,617.0 | 6,993.0 | 7,498.2 | 8,857.2 |
| Less: Provision for Loan Losses | (307.4) | (382.6) | (486.3) | (624.7) | (864.6) | (1,397.5) | (1,710.6) |
| Other Income | 891.6 | 1,008.7 | 1,220.7 | 1,473.2 | 1,821.6 | 2,079.9 | 2,340.1 |
| Total Interest and Other Income | 4,439.0 | 5,167.9 | 5,659.2 | 6,465.5 | 7,950.0 | 8,180.6 | 9,486.7 |
| Net Income | 752.9 | 1,029.8 | 1,173.6 | 1,316.7 | 1,753.6 | 1,512.5 | 1,932.9 |
| Net Income as Percent of Average Assets ** | .55 | .61 | .55 | .51 | .56 | .39 | .49 |
| Other Income as Percent of Total Income | 20.1 | 19.5 | 21.6 | 22.8 | 22.9 | 24.4 | 24.7 |

** Figures for the years 1981 to 1983 are based on different accounting methods. They also exclude preferred share dividends.

SOURCE: Bank of Canada Review, Table A4, April, 1984, and A. Roy Palmer, Bunting, Quarterly Bank Review.

TABLE D.3

SUMMARY OF ECONOMIC FACTORS AFFECTING THE GROWTH OF THE BANKING SYSTEM

| | 1971-1981 | 1982-1984 | 1985-1995 |
|---|---|---|---|
| Inflation | + | - | 0 |
| Personal Savings | ++ | + | + |
| Consumer durables | ++ | 0 | 0 |
| New house construction | + | - | 0 |
| Business financing | + | - | + |
| Monetary policy | + (1971-79) | - (1979-82) | 0 |

\+ Positive

\- Negative

0 Neutral

SOURCE: Economics Practice, Currie, Coopers & Lybrand

TABLE D.4

DISTRIBUTION OF PERSONAL SAVINGS, BY TYPE OF INSTITUTION

| | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|---|---|---|
| | | | | | (PERCENT DISTRIBUTION) | | | |
| Chartered Banks * Adjusted to include mortgage loan subsidiaries | 29.8 | 29.0 | 28.7 | 30.4 | 30.4 | 30.4 | 29.4 | 27.1 |
| Trust Companies | 11.0 | 12.2 | 12.6 | 12.9 | 13.2 | 12.8 | 12.4 | 12.4 |
| Mortgage loan companies | 4.2 | 3.4 | 3.2 | 3.2 | 3.8 | 4.5 | 5.2 | 6.3 |
| Subtotal: Trust and Mortgage loan companies excluding bank subsidiaries | 14.2 | 14.4 | 14.6 | 14.9 | 15.0 | 14.5 | 14.0 | 14.0 |
| Local credit unions | 9.7 | 10.5 | 11.1 | 10.8 | 10.7 | 9.8 | 9.2 | 9.0 |
| Investment Funds | 1.5 | 1.5 | 1.5 | 1.4 | 1.3 | 1.3 | 1.2 | 1.4 |
| Government saving bank | 1.5 | 1.5 | 1.5 | 1.6 | 1.7 | 1.7 | 1.6 | 1.7 |
| Trusteed pension plans | 16.6 | 16.9 | 17.2 | 17.9 | 19.1 | 19.7 | 20.5 | 21.5 |
| Canadian Savings Bonds | 11.0 | 10.6 | 10.1 | 8.1 | 6.7 | 8.4 | 9.7 | 10.6 |
| Trust companies retirement savings funds | - | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.1 |
| segregated funds | 2.0 | 2.1 | 2.3 | 2.4 | 2.6 | 2.3 | 2.4 | 2.6 |
| Life Insurance | 13.7 | 13.3 | 12.8 | 12.4 | 12.2 | 11.8 | 11.7 | 11.9 |
| TOTAL ($ BILLION) | 150.1 | 173.0 | 200.4 | 232.7 | 263.6 | 304.6 | 340.5 | 375.9 |
| MEMO: Bank mortgage subsidiaries | 1.0 | 1.2 | 1.2 | 1.2 | 2.0 | 2.8 | 3.6 | 4.7 |

* Chartered bank data include deposits of mortgage subsidiaries, which are then excluded from mortgage loan companies.

SOURCE: Statistics Canada. Financial Institutions, Cat. No. 61-006, Table 127 plus special tabulations. Bank mortgage affiliate data comes from Bank of Canada Review, Table 42.

TABLE D.5

MORTGAGE LOANS OUTSTANDING BY LENDING INSTITUTION
PERCENT DISTRIBUTION

| | 1974 | 1978 | 1979 | 1980 | 1981 | 1982 |
|---|---|---|---|---|---|---|
| Chartered Banks | 11.8 | 15.4 | 16.2 | 15.2 | 13.4 | 9.1 |
| Add Bank Mortgage Subsidiaries | 2.6 | 3.6 | 4.4 | 6.3 | 9.4 | 13.9 |
| Subtotal | 14.3 | 19.0 | 20.6 | 21.5 | 22.8 | 23.0 |
| Trust and Loan Companies | 26.8 | 28.5 | 29.9 | 31.7 | 33.4 | 37.9 |
| Subtract Bank Mortgage Subsidiaries | (2.6) | (3.6) | (4.4) | (6.3) | (9.4) | (13.9) |
| Subtotal | 24.2 | 24.9 | 25.5 | 25.4 | 24.0 | 23.9 |
| Life Companies | 17.8 | 13.1 | 12.9 | 13.0 | 13.1 | 13.6 |
| Credit Union | 7.8 | 11.5 | 12.2 | 12.4 | 11.9 | 11.3 |
| Governments and their Agencies | 19.2 | 13.0 | 11.4 | 11.0 | 10.9 | 11.4 |
| Other | 16.6 | 18.5 | 17.4 | 16.7 | 17.5 | 16.8 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Total ($ billion) | 53.6 | 100.9 | 114.8 | 125.6 | 136.2 | 137.9 |

NOTE: Details may not add to totals due to rounding.

SOURCE: Calculated from Canada Mortgage and Housing Corporation, Canadian Housing Statistics, 1983, Table 78. Figures for bank mortgage subsidiaries from Bank of Canada Review, Table 42.

TABLE D.6

ASSETS OF SELECTED FINANCIAL INSTITUTIONS
PERCENT DISTRIBUTION

| | 1971 | 1974 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|---|---|---|
| Chartered Bank Canadian Assets | 50.1 | 53.0 | 52.8 | 53.9 | 54.3 | 55.7 | 54.6 | 51.2 |
| Add Bank Mortgage Loan Subsidiaries | - | 1.1 | 1.6 | 2.0 | 2.7 | 3.3 | 5.3 | 7.4 |
| Subtotal Banks | 50.1 | 54.1 | 54.4 | 55.9 | 57.0 | 59.0 | 59.9 | 58.6 |
| Trust and Mortgage Loan Companies | 14.6 | 14.8 | 16.6 | 16.8 | 17.6 | 17.8 | 19.7 | 22.3 |
| Subtract Bank Mortgage Loan Companies | - | 1.1 | 1.6 | 2.0 | 2.7 | 3.3 | 5.3 | 7.4 |
| Subtotal Trust and Loan | 14.6 | 13.7 | 15.0 | 14.8 | 14.9 | 14.5 | 14.4 | 14.9 |
| Sales Finance and Consumer Loan Companies | 7.0 | 7.4 | 5.5 | 5.2 | 4.5 | 4.0 | 3.2 | 3.1 |
| Life Insurance Companies Canadian Assets | 21.4 | 16.8 | 14.7 | 14.0 | 13.9 | 13.5 | 13.9 | 14.5 |
| Local Credit Unions and Caisses Populaires | 6.9 | 8.0 | 10.4 | 10.0 | 9.7 | 9.0 | 8.6 | 9.0 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Total ($ billion) | 79.7 | 129.2 | 231.3 | 273.2 | 315.2 | 363.0 | 389.2 | 414.2 |

NOTE: Details may not add to totals due to rounding.

SOURCE: Bank of Canada Review

TABLE D.7

GLOBAL INDUSTRY INDICATORS: SIC 701 BANKS AND OTHER DEPOSIT ACCEPTING ESTABLISHMENTS

(CURRENT DOLLARS)

| | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GGREGATE OUTPUT | | | | | | | | | | | | | | |
| ross Domestic Product at actor Cost ($ Million) | 1272.6 | 1418.9 | 1718.5 | 2120.7 | 2714.8 | 3053.6 | 3520.2 | 3798.0 | 3912.3 | 4162.7 | 4556.7 | 5134.1 | N.A. | |
| GGREGATE EMPLOYMENT | | | | | | | | | | | | | | |
| aid Employees (Thousands) | | | | | | | 81.6 | 86.4 | 89.1 | 89.7 | 91.6 | 92.5 | 88.3 | |
| utput Per Worker ($) | | | | | | | 43,140 | 43,958 | 43,909 | 46,407 | 49,746 | 55,504 | | |
| APITAL INVESTMENT ($ Million) | | | | | | | | | | | | | | |
| ANADA | | | | | | | | | | | | | | |
| onstruction | 26.1 | 33.1 | 48.9 | 82.3 | 97.0 | 127.2 | 125.3 | 220.8 | 219.1 | 218.6 | 265.2 | 292.1 | 273.9 | 209.1 |
| achinery and Equipment | 31.0 | 34.8 | 40.3 | 78.7 | 51.4 | 84.1 | 73.9 | 94.7 | 98.8 | 115.0 | 148.8 | 187.3 | 204.6 | 239.4 |
| Total | 57.1 | 67.9 | 89.2 | 161.0 | 148.4 | 211.3 | 199.2 | 315.5 | 317.9 | 333.6 | 414.0 | 479.4 | 478.5 | 448.5 |
| NTARIO | | | | | | | | | | | | | | |
| onstruction | N.A. | N.A | N.A | N.A | N.A | N.A. | N.A. | 114.5 | 85.9 | 90.3 | 87.7 | 71.1 | 60.4 | 61.9 |
| achinery and Equipment | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | 56.3 | 43.5 | 57.1 | 60.1 | 90.4 | 116.1 | 148.7 |
| Total | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | 170.8 | 129.4 | 147.8 | 147.4 | 161.5 | 176.5 | 210.6 |

OTE: Employment data for the years prior to 1977 is not broken down for banks and other deposit accepting institutions.

OURCE: Statistics Canada, Gross Domestic Product by Industry, Cat. No. 61-213 Employment, Earnings and Hours, Cat. No. 72-002; and Public and Private Investment in Canada, Cat. 61-205.

TABLE D.8

GLOBAL INDUSTRY INDICATORS: SIC 701 BANKS AND OTHER DEPOSIT ACCEPTING ESTABLISHMENTS

(CURRENT DOLLAR PERCENT CHANGE)

| | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AGGREGATE OUTPUT | | | | | | | | | | | | | |
| Gross Domestic Product at Factor Cost | 11.5 | 21.1 | 23.4 | 28.0 | 12.5 | 15.3 | 7.9 | 3.0 | 6.4 | 9.5 | 12.7 | - | - |
| AGGREGATE EMPLOYMENT | | | | | | | | | | | | | |
| Paid Employees | | | | | | | 5.9 | 3.1 | 0.7 | 2.1 | 1.0 | (4.5) | |
| Output Per Worker | | | | | | | 1.9 | (0.1) | 5.7 | 7.2 | 11.6 | | |
| CAPITAL INVESTMENT | | | | | | | | | | | | | |
| CANADA | | | | | | | | | | | | | |
| Construction | 26.8 | 47.7 | 68.3 | 17.9 | 31.1 | (1.5) | 76.2 | (0.8) | (0.2) | 21.3 | 10.1 | (6.2) | (23.7) |
| Machinery and Equipment | 12.3 | 15.8 | 95.3 | (34.7) | 63.6 | (12.1) | 28.1 | 4.3 | 16.4 | 29.4 | 25.9 | 9.2 | 17.0 |
| Total | 18.9 | 31.4 | 80.5 | (7.8) | 42.4 | (5.7) | 58.4 | 0.8 | 4.9 | 24.1 | 15.8 | (0.2) | (6.3) |
| ONTARIO | | | | | | | | | | | | | |
| Construction | | | | | | | | (25.0) | 5.1 | (2.9) | (18.9) | (15.0) | 2.5 |
| Machinery and Equipment | | | | | | | | (22.7) | 31.3 | 5.3 | 50.4 | 28.4 | 28.1 |
| Total | | | | | | | | (24.2) | 13.9 | 0.3 | 9.3 | 9.3 | 19.3 |

() Indicates decline.

SOURCE: Calculated from Table D.7.

TABLE D.9

GLOBAL INDUSTRY INDICATORS: SIC 701 BANKS AND OTHER DEPOSIT ACCEPTING ESTABLISHMENTS

($ CONSTANT 1971 MILLION)

| | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AGGREGATE OUTPUT | | | | | | | | | | | | | | |
| Gross Domestic Product at Factor Cost | 1272.6 | 1428.1 | 1615.9 | 1719.9 | 1815.6 | 2026.7 | 2236.2 | 2308.4 | 2432.9 | 2439.8 | 2585.8 | 2535.3 | 2461.5 | |
| AGGREGATE EMPLOYMENT | | | | | | | | | | | | | | |
| Paid Employees | | | | | | | 81.6 | 86.4 | 89.1 | 89.7 | 91.6 | 92.5 | 88.3 | |
| Output Per Worker ($) | | | | | | | 27,404 | 26,718 | 27,305 | 27,200 | 28,229 | 27,409 | 27,877 | |
| CAPITAL INVESTMENT | | | | | | | | | | | | | | |
| CANADA | | | | | | | | | | | | | | |
| Construction | 26.1 | 31.3 | 42.8 | 61.8 | 64.9 | 79.9 | 74.1 | 122.2 | 110.7 | 98.5 | 107.1 | 107.5 | 96.3 | 71.2 |
| Machinery and Equipment | 31.0 | 33.9 | 37.7 | 64.6 | 37.0 | 57.2 | 46.1 | 53.0 | 50.2 | 53.0 | 61.5 | 71.7 | 75.9 | 84.4 |
| Total | 57.1 | 65.2 | 80.5 | 126.4 | 101.9 | 137.1 | 120.2 | 175.2 | 160.9 | 151.5 | 168.6 | 179.2 | 172.2 | 155.6 |
| ONTARIO | | | | | | | | | | | | | | |
| Construction | NA | NA | NA | NA | NA | NA | NA | 63.4 | 43.4 | 40.7 | 35.4 | 26.2 | 21.2 | 21.1 |
| Machinery and Equipment | NA | NA | NA | NA | NA | NA | NA | 31.5 | 22.1 | 26.3 | 24.8 | 34.6 | 43.1 | 52.4 |
| Total | NA | NA | NA | NA | NA | NA | NA | 94.9 | 65.5 | 67.0 | 60.2 | 60.8 | 64.3 | 73.5 |

NA Not Available

NOTE: Employment data for the years prior to 1977 is not broken down for banks and other deposit accepting institutions.

SOURCE: As outlined on Table D.7. Construction and machinery and equipment investment deflated by the Implicit Price Indexes for Business Non-Residential Construction and Business Machinery and Equipment, as available in Statistics Canada, National Income and Expenditure Accounts, Cat. No. 13-201.

TABLE D.10

GLOBAL INDUSTRY INDICATORS: SIC 701 BANKS AND OTHER DEPOSIT ACCEPTING ESTABLISHMENTS

(CONSTANT DOLLAR PERCENT CHANGE)

| | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AGGREGATE OUTPUT | | | | | | | | | | | | | |
| Gross Domestic Product at Factor Cost | 12.2 | 13.2 | 6.4 | 5.6 | 11.6 | 10.3 | 3.2 | 5.4 | 0.3 | 6.0 | (2.0) | (2.9) | |
| AGGREGATE EMPLOYMENT | | | | | | | | | | | | | |
| Paid Employees | | | | | | | 5.9 | 3.1 | 0.7 | 2.1 | 1.0 | (4.5) | |
| Output Per Worker ($) | | | | | | | (2.5) | 2.2 | (0.4) | 3.8 | (2.9) | 1.7 | |
| CAPITAL INVESTMENT | | | | | | | | | | | | | |
| CANADA | | | | | | | | | | | | | |
| Construction | 19.9 | 36.7 | 44.4 | 5.0 | 23.1 | (7.3) | 64.9 | (9.4) | (11.0) | 8.7 | 0.4 | (10.4) | (26.1) |
| Machinery and Equipment | 9.4 | 11.2 | 71.4 | (42.7) | 54.6 | (19.4) | 15.0 | (5.3) | 5.6 | 16.0 | 16.6 | 5.9 | 11.2 |
| Total | 14.2 | 23.5 | 57.0 | (19.4) | 34.5 | (12.3) | 45.8 | (8.2) | (5.8) | 11.3 | 6.3 | (3.9) | (9.6) |
| ONTARIO | | | | | | | | | | | | | |
| Construction | | | | | | | | (31.5) | (6.2) | (13.0) | (26.0) | (19.1) | (0.5) |
| Machinery and Equipment | | | | | | | | (29.8) | 19.0 | (5.7) | 39.5 | 24.6 | 21.6 |
| Total | | | | | | | | (31.0) | 2.3 | (10.1) | 1.0 | 5.8 | 14.3 |

() Indicates decline.

SOURCE: Calculated from Table D.9.

TABLE D.11

INDUSTRY INDICATORS: CHARTERED BANKS

($ MILLION CURRENT)

| | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AGGREGATE OUTPUT | | | | | | | | | | | | | |
| Bank Assets | | | | | | | | | | | | | |
| World Wide | 54,428 | 63,222 | 79,754 | 97,015 | 108,378 | 126,403 | 150,477 | 189,100 | 229,151 | 281,244 | 311,923* | 369,062 | 368,628 |
| Canada | 39,958 | 46,650 | 56,455 | 68,481 | 77,169 | 88,790 | 102,189 | 122,128 | 147,285 | 171,296 | 202,355* | 212,572 | 211,882 |
| Ontario | NA | NA | NA | 28,199 | 31,515 | 35,525 | 42,724 | 51,422 | 61,020 | 68,426 | 84,852 | 91,680 | 90,081 |
| Bank Income from Financial Services | | | | | | | 892** | 1,009 | 1,221 | 1,473 | 1,822 | 2,080 | 2,340 |

NA Not Available.

* A change in accounting systems implemented November 1, 1981, makes the data for 1981 and subsequent years not comparable with earlier years.

** Earliest data available for consistent series.

SOURCE: Bank of Canada Review, Tables 7 and 12 and special tabulations from the Canadian Bankers' Association.

TABLE D.12

INDUSTRY INDICATORS: CHARTERED BANKS

(CURRENT DOLLAR PERCENT CHANGE)

| | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AGGREGATE OUTPUT | | | | | | | | | | | | |
| Bank Assets | | | | | | | | | | | | |
| World Wide | 16.2 | 26.1 | 21.6 | 11.7 | 16.6 | 19.0 | 25.7 | 21.2 | 22.7 | 10.9* | 18.3 | (0.1) |
| Canada | 16.7 | 21.0 | 21.3 | 12.7 | 15.1 | 15.1 | 19.5 | 20.6 | 16.3 | 18.1* | 5.0 | (0.3) |
| Ontario | - | - | - | 11.8 | 12.7 | 20.2 | 20.4 | 18.7 | 12.1 | 24.0* | 8.0 | (1.7) |
| Bank Income from Financial Services | | | | | | | 13.1 | 21.0 | 20.6 | 23.7 | 14.2 | 12.5 |

* Change in accounting systems (see Table D.11).

SOURCE: Calculated from Table D.11.

TABLE D.13

INDUSTRY INDICATORS: CHARTERED BANKS

($ CONSTANT 1971 MILLION)

| | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AGGREGATE OUTPUT | | | | | | | | | | | | | |
| Bank Assets | | | | | | | | | | | | | |
| World Wide | 54,428 | 60,211 | 69,592 | 73,441 | 74,079 | 78,805 | 87,334 | 102,884 | 113,049 | 124,554 | 140,005* | 133,956 | 126,894 |
| Canada | 39,958 | 44,429 | 49,263 | 51,840 | 52,747 | 55,355 | 59,309 | 66,446 | 72,662 | 75,862 | 81,039* | 77,159 | 72,937 |
| Ontario | NA | NA | NA | 21,347 | 21,541 | 22,148 | 24,796 | 27,977 | 30,104 | 30,304 | 33,982* | 33,278 | 31,009 |
| Bank Income from Financial Services | NA | NA | NA | NA | NA | NA | 567 | 613 | 759 | 863 | 1,034 | 1,027 | ** |
| EMPLOYMENT (Numbers) | | | | | | | | | | | | | |
| Canadian Employees | 95,336 | 102,668 | 112,769 | 123,214 | 129,622 | 138,400 | 147,749 | 152,640 | 152,004** | 151,353 | 158,195 | 151,917 | 148,277 |
| Ontario Employees | 38,803 | 41,848 | 46,342 | 50,050 | 52,427 | 55,843 | 60,303 | 62,434 | 62,768** | 62,657 | 65,731 | 64,601 | 64,199 |
| OUTPUT PER EMPLOYEE ($) | | | | | | | | | | | | | |
| Canadian Assets per Employee | 419,128 | 432,744 | 436,849 | 420,731 | 406,929 | 399,964 | 401,417 | 435,312 | 478,027 | 501,226 | 512,273 | 507,902 | 491,897 |
| Ontario Assets per Employee | NA | NA | NA | 426,513 | 410,876 | 396,612 | 411,190 | 448,105 | 479,607 | 483,649 | 516,986 | 515,131 | 483,014 |

NA Not Available

* Break in series

** Series deflated by Statistics Canada, Gross Domestic Product for SIC 701, (not available for 1983), Cat. No. 61-213.

*** Change in method of reporting from employees during the month to employees at last pay period.

NOTE: Assets deflated by the Implicit Price Index for Gross National Expenditure, from Statistics Canada, National Income and Expenditure Accounts, Cat. No. 13-201.

SOURCE: For Bank Assets, see Table D.11. Employment series from the Canadian Bankers' Association.

TABLE D.14

INDUSTRY INDICATORS: CHARTERED BANKS

(CONSTANT DOLLAR PERCENT CHANGE)

| | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AGGREGATE OUTPUT | | | | | | | | | | | | |
| Bank Assets | | | | | | | | | | | | |
| World Wide | 10.6 | 15.6 | 5.5 | 0.9 | 6.4 | 10.8 | 17.8 | 9.9 | 10.2 | 12.4 | (4.3) | (5.3) |
| Canada | 11.2 | 10.9 | 5.2 | 1.7 | 4.9 | 7.1 | 12.0 | 9.4 | 4.4 | 6.8 | (4.8) | (5.5) |
| Ontario | - | - | - | 0.9 | 2.8 | 12.0 | 12.8 | 7.6 | 0.7 | 12.1 | (2.1) | (6.8) |
| Bank Income from Financial Services | | | | | | | 8.1 | 23.8 | 13.7 | 19.8 | (0.7) | |
| EMPLOYMENT | | | | | | | | | | | | |
| Canadian Employees | 7.7 | 15.8 | 9.3 | 5.2 | 6.8 | 6.8 | 3.3 | (0.4) | (0.4) | 4.5 | (4.0) | (2.4) |
| Ontario Employees | 7.8 | 10.7 | 8.0 | 4.7 | 6.5 | 8.0 | 3.5 | 0.5 | (0.2) | 4.9 | (1.7) | (0.6) |
| OUTPUT PER EMPLOYEE | | | | | | | | | | | | |
| Canadian Assets per Employee | 3.2 | 0.9 | (3.7) | (3.3) | (1.7) | 0.4 | 8.4 | 9.8 | 4.9 | 2.2 | (0.9) | (3.2) |
| Ontario Assets per Employee | - | - | - | (3.7) | (3.5) | 3.7 | 9.0 | 7.0 | 0.8 | 6.9 | (0.4) | (6.2) |

() Indicates decline.

SOURCE: Calculated from Table D.13.

## TABLE D.15

## PENETRATION OF AUTOMATED TELLER MACHINES IN CANADA

| | Installed | | | Planned |
|---|---|---|---|---|
| | as of January 1983 | as of January 1984 | as of July 1984 | for January 1985 |
| Banks | 1,117 | 1,670 | 2,117 | 2,436 |
| Trust Companies | - | 41 | 90 | 135 |
| Credit Unions | 259 | 361 | 416 | 502 |
| Total | 1,376 | 2,072 | 2,623 | 3,073 |

SOURCE: Evans Research Corp., reported in the Globe and Mail, October 2, 1984.

TABLE D.16

OCCUPATIONAL INDICATORS: BANKS AND OTHER DEPOSIT ACCEPTING ESTABLISHMENTS

RANKING BY RELATIVE STRENGTH

| | | NUMBER OF EMPLOYEES 1981 | AVERAGE ANNUAL RATE OF CHANGE PERCENT 1971 - 1981 |
|---|---|---|---|
| I | TOTAL INDUSTRY | 94,835 | 6.4 |
| II | TWO DIGIT LEVEL | | |
| | SALES | 1,150 | (0.6) |
| | CLERICAL AND RELATED | 65,375 | 6.0 |
| | MANAGERIAL, ADMINISTRATIVE AND RELATED | 22,930 | 9.0 |
| | NATURAL SCIENCES, ENGINEERING AND MATHEMATICS | 2,555 | 13.1 |
| III | FOUR DIGIT LEVEL | | |
| | CLERICAL AND RELATED | | |
| | Supervisors, Other Clerical and Related, n.e.c. | 650 | (4.5) |
| | General Office Clerks | 1,370 | 1.3 |
| | Typists and Clerk-Typists | 3,015 | 1.6 |
| | Bookkeepers and Accounting Clerks | 9,410 | 4.3 |
| | Other Clerical and Related, n.e.c. | 1,500 | 5.1 |
| | Secretaries and Stenographers | 5,005 | 5.1 |
| | Tellers and Cashiers | 22,350 | 6.6 |
| | Insurance, Bank and Other Finance Clerks | 11,515 | 9.1 |
| | Supervisors, Bookkeeping, Account-Recording and Related | 3,650 | 11.9 |
| | Electronic Data-Processing Equipment Operators | 2,620 | 13.6 |
| | TOTAL | 65,375 | 6.0 |

TABLE D.16 (Cont'd)

OCCUPATIONAL INDICATORS: BANKS AND OTHER DEPOSIT ACCEPTING ESTABLISHMENTS

RANKING BY RELATIVE STRENGTH

| | NUMBER OF EMPLOYEES 1981 | AVERAGE ANNUAL RATE OF CHANGE PERCENT 1971 - 1981 |
|---|---|---|
| MANAGERIAL, ADMINISTRATIVE AND RELATED | | |
| Accountants, Auditors and Other Financial Officers | 8,495 | 1.2 |
| Financial Management | 11,120 | 28.6 |
| TOTAL | 22,930 | 9.0 |
| NATURAL SCIENCES, ENGINEERING AND MATHEMATICS | | |
| Systems Analysts, Computer Programmers and Related | 2,065 | 14.8 |
| TOTAL | 2,555 | 13.1 |

() Indicates decline.

NOTE: Details do not add to totals as all occupations are not included.

SOURCE: Census data, Ontario Ministry of Labour.

TABLE D.17

OCCUPATIONAL INDICATORS: BANKS AND OTHER ACCEPTING ESTABLISHMENTS

RANKING BY INCREASE IN FEMALE REPRESENTATION

| | | FEMALES EMPLOYED 1981 | FEMALE EMPLOYMENT AS A PERCENT OF TOTAL 1971 | 1981 | NUMBER OF JOBS GAINED BY FEMALES 1971-1981 |
|---|---|---|---|---|---|
| I. | TOTAL INDUSTRY | 70,560 | 67.9 | 74.4 | 35,960 |
| II. | TWO DIGIT LEVEL | | | | |
| | SALES | 475 | 21.2 | 41.3 | 215 |
| | NATURAL SCIENCES, ENGINEERING AND MATHEMATICS | 745 | 10.7 | 29.2 | 665 |
| | MANAGERIAL, ADMINISTRATIVE AND RELATED | 9,080 | 19.8 | 39.6 | 7,175 |
| | CLERICAL AND RELATED | 58,905 | 85.4 | 90.1 | 27,865 |
| III. | FOUR DIGIT LEVEL | | | | |
| | NATURAL SCIENCES, ENGINEERING AND MATHEMATICS | | | | |
| | Systems Analysts, Computer Programmers and Related | 605 | 14.4 | 29.3 | 530 |
| | TOTAL | 745 | 10.7 | 29.2 | 665 |
| | MANAGERIAL, ADMINISTRATIVE AND RELATED | | | | |
| | Financial Management | 2,890 | 5.0 | 26.0 | 2,850 |
| | Accountants, Auditors and Other Financial Officers | 4,590 | 21.1 | 54.0 | 2,995 |
| | TOTAL | 9,080 | 19.8 | 39.6 | 7,175 |

TABLE D.17 (Cont'd)

OCCUPATIONAL INDICATORS: BANKS AND OTHER ACCEPTING ESTABLISHMENTS

RANKING BY INCREASE IN FEMALE REPRESENTATION

| | FEMALES EMPLOYED 1981 | FEMALE EMPLOYMENT AS A PERCENT OF TOTAL 1971 | 1981 | NUMBER OF JOBS GAINED BY FEMALES 1971-1981 |
|---|---|---|---|---|
| CLERICAL AND RELATED | | | | |
| Supervisors, Other Clerical and Related, n.e.c. | 465 | 39.6 | 71.5 | 55 |
| General Office Clerks | 1,180 | 79.6 | 86.1 | 225 |
| Typists and Clerk-Typists | 2,975 | 99.4 | 98.7 | 415 |
| Other Clerical and Related, n.e.c. | 950 | 54.9 | 63.3 | 450 |
| Electronic Data-Processing Equipment Operators | 1,945 | 80.1 | 74.2 | 1,360 |
| Secretaries and Stenographers | 4,995 | 98.7 | 99.8 | 2,005 |
| Supervisors, Bookkeeping, Account-Recording and Related | 3,085 | 64.1 | 84.5 | 2,325 |
| Bookkeepers and Accounting Clerks | 8,330 | 77.7 | 88.5 | 3,525 |
| Insurance, Bank and Other Finance Clerks | 10,305 | 82.5 | 89.5 | 6,330 |
| Tellers and Cashiers | 21,680 | 97.8 | 97.0 | 10,145 |
| TOTAL | 58,905 | 85.4 | 90.1 | 27,865 |

NOTE: Females employed in 1981 is calculated from percent of total.
Details do not add to totals as all occupations are not included.

SOURCE: Census data, Ontario Ministry of Labour.

## TABLE D.18

## MAJOR TRUST COMPANIES OPERATING IN ONTARIO (CANADIAN OPERATIONS IN 1981)

| | ASSETS | | |
|---|---|---|---|
| | GUARANTEED FUNDS | COMPANY FUNDS | ESTATE, TRUST AND AGENCY FUNDS |
| | | $ MILLION | |
| FEDERAL COMPANIES | | | |
| The Royal Trust Company | 1,823.6 | 116.2 | 9,950.8 |
| Royal Trust Corporation of Canada | 5,157.2 | 261.8 | 12,982.1 |
| The Canada Trust Company | 3,723.0 | 265.1 | 9,497.8 |
| The Canada Permanent Trust | 3,348.2 | 236.8 | 3,974.6 |
| Guaranty Trust Company of Canada | 2,411.3 | 120.8 | 2,037.1 |
| Central Trust Company | 1,780.1 | 96.9 | 360.5 |
| First City Trust Company | 1,579.4 | 100.5 | 1,165.9 |
| PROVINCIAL COMPANIES | | | |
| Victoria and Grey Trust Company* | 3,530.0 | 178.7 | 1,195.9 |
| National Trust Company Limited* | 2,471.5 | 106.7 | 8,543.4 |
| Crown Trust Company | 632.6 | 31.1 | 1,038.3 |
| Subtotal for 10 companies | 26,457.0 | 1,514.6 | 50,746.4 |
| Total for all companies | 35,099.7 | 2,112.4 | 65,929.4 |

* National Trust and Victoria and Grey are in the process of merging to form the third largest firm in Canada.

SOURCE: Report of the Registrar of Business of 1981, Ontario Ministry of Consumer and Commercial Relations.

TABLE D.19

MAJOR MORTGAGE LOAN COMPANIES OPERATING IN ONTARIO
(CANADIAN OPERATIONS IN 1981)

| | ASSETS $ MILLION |
|---|---|
| FEDERAL COMPANIES | |
| Canada Trustco Mortgage Company | 5,257.2 |
| Bank of Montreal Mortgage Corporation | 2,813.1 |
| Kinross Mortgage Corporation | 2,407.9 |
| Canada Permanent Mortgage Corporation | 2,285.5 |
| RoyMor Mortgage Corporation | 2,287.9 |
| Credit Foncier | 1,578.5 |
| Scotia Mortgage Corporation | 1,378.2 |
| Procan Mortgage Corporation | 1,216.1 |
| PROVINCIAL COMPANIES | |
| Tordom Corporation | 2,762.0 |
| Subtotal for 9 companies | 21,986.4 |
| Total for all companies | 24,070.0 |

SOURCE: Report of the Registrar of Business of 1981, Ontario Ministry of Consumer and Commercial Relations.

TABLE D.20

FEE PAYING SERVICES OF TRUST COMPANIES

| | 1972 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1972 | 1983 | AVERAGE ANNUAL RATE OF CHANGE, 1972-1983 |
|---|---|---|---|---|---|---|---|---|---|---|
| | PERCENT DISTRIBUTION | | | | | | | $ MILLION | | PERCENT |
| Fees and Commissions Estates, Trusts & Agencies | 14.3 | 6.5 | 5.7 | 4.8 | 4.1 | 3.9 | 4.3 | 116.5 | 289.0 | 8.6 |
| Sale of Real Estate | 7.2 | 8.3 | 7.6 | 7.1 | 5.7 | 4.3 | 5.8 | 58.4 | 392.7 | 18.9 |
| Other Fees and Commissions | - | 1.5 | 1.3 | 1.4 | 1.3 | 1.4 | 1.8 | - | 124.4 | - |
| Total Fees | 21.4 | 16.3 | 14.5 | 13.3 | 11.1 | 9.6 | 12.0 | 174.9 | 806.1 | 14.9 |
| Total Revenues | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 816.6 | 6,734.5 | 21.1 |

SOURCE: Statistics Canada, Financial Institutions, Cat. No. 61-006.
Calculations by Currie, Coopers & Lybrand.

TABLE 21

MORTGAGE LOAN APPROVALS BY TRUST AND LOAN COMPANIES IN ONTARIO
SELECTED YEARS - 1971 TO 1982

| | NEW | | | EXISTING | | | TOTAL | | |
|---|---|---|---|---|---|---|---|---|---|
| | Single | Multiple | Total | Single | Multiple | Total | Single | Multiple | Total |
| | | | | -- Number of Units -- | | | | | |
| 1971 | 13,028 | 24,095 | 37,123 | 27,897 | 7,833 | 35,730 | 40,925 | 31,928 | 72,853 |
| 1976 | 14,328 | 18,370 | 32,698 | 38,182 | 12,769 | 50,951 | 52,510 | 31,139 | 83,649 |
| 1977 | 14,350 | 22,284 | 36,634 | 56,864 | 26,258 | 83,122 | 71,214 | 48,542 | 119,756 |
| 1978 | 13,928 | 14,182 | 28,110 | 54,276 | 27,686 | 81,962 | 68,204 | 41,868 | 110,072 |
| 1979 | 13,844 | 9,906 | 23,750 | 47,096 | 20,848 | 67,944 | 60,940 | 30,754 | 91,694 |
| 1980 | 6,316 | 7,822 | 14,138 | 29,885 | 17,221 | 47,106 | 36,201 | 25,043 | 61,244 |
| 1981 | 6,134 | 8,497 | 14,631 | 19,181 | 13,672 | 32,853 | 25,315 | 22,169 | 47,484 |
| 1982 | 4,308 | 6,175 | 10,483 | 27,892 | 19,364 | 47,256 | 32,200 | 25,539 | 57,730 |
| | | | | -- Value of New Loans ($ Million) -- | | | | | |
| 1971 | 298.2 | 342.9 | 641.1 | 464.4 | 56.0 | 520.4 | 762.6 | 398.9 | 1,161.5 |
| 1976 | 629.5 | 655.0 | 1,284.5 | 1,169.7 | 171.7 | 1,341.4 | 1,799.2 | 826.7 | 2,625.9 |
| 1977 | 674.9 | 740.5 | 1,415.4 | 1,895.1 | 378.9 | 2,274.0 | 2,570.0 | 1,119.4 | 3,689.4 |
| 1978 | 698.2 | 449.9 | 1,148.1 | 1,910.4 | 437.6 | 2,348.0 | 2,608.6 | 887.5 | 3,496.1 |
| 1979 | 785.4 | 320.1 | 1,105.5 | 1,762.9 | 387.8 | 2,150.7 | 2,548.3 | 707.9 | 3,256.2 |
| 1980 | 375.0 | 318.5 | 693.5 | 1,158.1 | 340.4 | 1,498.5 | 1,533.1 | 658.9 | 2,192.0 |
| 1981 | 386.2 | 361.5 | 747.7 | 848.0 | 289.8 | 1,137.8 | 1,234.2 | 651.3 | 1,885.5 |
| 1982 | 281.0 | 323.4 | 604.4 | 1,377.4 | 424.4 | 1,801.8 | 1,658.4 | 747.8 | 2,406.2 |
| | | | | -- Average Dollar Value/Unit -- | | | | | |
| 1971 | 22,889 | 14,231 | 17,270 | 16,647 | 7,149 | 14,565 | 18,634 | 12,494 | 15,943 |
| 1976 | 43,935 | 35,656 | 39,284 | 30,635 | 13,447 | 26,327 | 34,264 | 26,549 | 31,392 |
| 1977 | 47,031 | 33,230 | 38,636 | 33,327 | 14,430 | 27,357 | 36,088 | 23,060 | 30,808 |
| 1978 | 50,129 | 31,723 | 40,843 | 35,198 | 15,806 | 28,647 | 38,247 | 21,198 | 31,762 |
| 1979 | 56,732 | 32,314 | 46,547 | 37,432 | 18,601 | 31,654 | 41,817 | 23,018 | 35,512 |
| 1980 | 59,373 | 40,718 | 49,052 | 38,752 | 19,767 | 31,811 | 42,350 | 26,311 | 35,791 |
| 1981 | 62,960 | 42,544 | 51,104 | 44,210 | 21,197 | 34,633 | 48,754 | 29,379 | 39,708 |
| 1982 | 65,227 | 52,372 | 57,655 | 49,383 | 21,917 | 38,128 | 51,503 | 29,281 | 41,674 |

SOURCE: Canada Mortgage and Housing Corporation. Calculations by Economics Practice, Currie, Coopers and Lybrand.

TABLE D.22

BANKS AND TRUST COMPANIES
INSTITUTIONAL NETWORKING IN CANADA

| AFFILIATIONS | INSTITUTIONS | | | | | |
|---|---|---|---|---|---|---|
| | Banks & Savings Banks | Trust Companies | Credit Unions | Life Companies | Securities Firms | Other |
| Canadian Pioneer Management Ltd. | | Pioneer Trust | | Pioneer Life | Pioneer Securities | |
| Crownx | | Coronet Trust<br>North Canadian Trust | | Crown Life | Private Ledger Financial Services (U.S.)<br>Beutel Goodman & Co. Ltd. | |
| Eaton-Bay Financial Services | | Eaton-Bay Trust | | Eaton-Bay Life | | |
| E-L Financial Corporation | | National Victoria & Grey Trust | | Empire Life | | |
| | | Premier Trust | | Dominion of Canada General | | |
| Groupe Pret & Revenue | | Fiducie Pret & Revenue | | AEterna Life | | |
| Laurentian Group | Montreal City & District Savings Bank | Credit Foncier | | Imperial Life | Geoffrion & Leclerc | |
| Manufacturers Life | | | | Dominion Life | | |
| Morgan Bancorp | | Morgan Trust | | Westbury Life | | |
| Power Financial Corporation | | Montreal Trust | | Great-West Life | | |
| Principal Group Ltd. | | Principal Trust | | Principal Life | Principal Securities | |
| Traders Group | | Guaranty Trust | | Canadian General Life | | |
| Trilon Financial Corporation | | Royal Trust | | London Life | | Fireman's Fund Insurance Co. of Canada |

SOURCE: Canadian Life and Health Insurance Association, Updated by Economics Practice of Currie, Coopers & Lybrand.

TABLE D.23

INDUSTRY INDICATORS: TRUST AND LOAN COMPANIES

(CURRENT DOLLARS)

| | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AGGREGATE OUTPUT - CANADA ($ Million) | | | | | | | | | | | | | |
| Total Assets | 11,629 | 13,381 | 16,446 | 19,185 | 22,621 | 27,668 | 32,644 | 38,419 | 45,996 | 55,373 | 64,741 | 76,516 | 92,291 |
| Total Revenue | NA | 816.6 | 1,022.0 | 1,336.4 | 1,578.2 | 2,001.2 | 2,517.8 | 2,985.6 | 3,712.2 | 4,652.8 | 6,167.0 | 6,765.9 | 6,734. |
| EMPLOYMENT CANADA | | | | | | | | | | | | | |
| Number of Employees* | NA | NA | 16,134 | 16,505 | 17,421 | 18,982 | 20,197 | 22,025 | 22,188 | 27,849 | 28,387 | 26,491 | 27,761 |
| COMPETITIVE PERFORMANCE ($ Thousand) | | | | | | | | | | | | | |
| Assets per Employee | - | - | 1,019.3 | 1,162.4 | 1,298.5 | 1,457.6 | 1,616.3 | 1,744.3 | 2,073.0 | 1,988.3 | 2,280.7 | 2,888.4 | 3,324. |
| Total Revenue per Employee | - | - | 63.3 | 81.0 | 90.6 | 105.4 | 124.7 | 135.6 | 167.3 | 167.1 | 216.9 | 255.4 | 242. |
| Net Income as a Percent of Average Assets | 0.87 | 0.86 | 0.78 | 0.55 | 0.73 | 0.66 | 0.62 | 0.65 | 0.56 | 0.56 | 0.46 | 0.44 | 0.53 |

NA Not Available

* Permanent full-time and part-time employees, excluding real estate sales personnel.

SOURCE: Statistics Canada, Financial Institutions, Cat. No. 61-006; Bank of Canada Review; and Trust Companies Association of Canada.

TABLE D.24

INDUSTRY INDICATORS: TRUST AND LOAN COMPANIES

(CURRENT DOLLARS PERCENT CHANGE)

| | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AGGREGATE OUTPUT - CANADA | | | | | | | | | | | | |
| Total Assets | 15.1 | 22.9 | 16.7 | 17.9 | 22.3 | 18.0 | 17.7 | 19.7 | 20.4 | 16.9 | 18.2 | 20.6 |
| Total Revenue | - | 25.2 | 30.8 | 18.1 | 26.8 | 25.8 | 18.6 | 24.3 | 25.3 | 32.3 | 9.9 | (0.5) |
| EMPLOYMENT CANADA | | | | | | | | | | | | |
| Number of Employees | - | - | 2.3 | 5.5 | 9.0 | 6.4 | 9.1 | 0.7 | 25.5 | 1.9 | (6.7) | 4.8 |
| COMPETITIVE PERFORMANCE | | | | | | | | | | | | |
| Assets per Employee | - | - | 14.0 | 11.7 | 12.3 | 10.9 | 7.9 | 18.8 | (4.1) | 14.7 | 26.6 | 15.1 |
| Total Revenue per Employee | - | - | 28.0 | 11.9 | 16.3 | 18.3 | 8.7 | 23.4 | (0.1) | 29.8 | 17.8 | (5.0) |
| Net Income as a Percent of Average Assets | (.01) | (.08) | (.23) | .18 | (.08) | (.04) | .03 | (.09) | .00 | (.10) | (.02) | .09 |

() Indicates decline.

SOURCE: Calculated from Table D.23

TABLE D.25

INDUSTRY INDICATORS: TRUST AND LOAN COMPANIES

(CONSTANT 1971 DOLLARS)

| | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AGGREGATE OUTPUT - CANADA ($ Million) | | | | | | | | | | | | | |
| Total Assets | 11,629 | 12,744 | 14,351 | 14,523 | 15,462 | 17,249 | 18,946 | 20,903 | 22,692 | 24,523 | 25,928 | 27,774 | 31,770 |
| Total Revenue | NA | 821.5 | 961.4 | 1,083.9 | 1,055.6 | 1,327.9 | 1,599.6 | 1,813.9 | 2,308.6 | 2,727.3 | 3,494.3 | 3,341.2 | * |
| EMPLOYMENT CANADA | | | | | | | | | | | | | |
| Number of Employees | NA | NA | 16,134 | 16,505 | 17,421 | 18,982 | 20,197 | 22,025 | 22,188 | 27,849 | 28,387 | 26,491 | 27,761 |
| COMPETITIVE PERFORMANCE ($ Thousands) | | | | | | | | | | | | | |
| Assets per Employee | - | - | 889.5 | 879.9 | 887.5 | 908.7 | 938.1 | 949.1 | 1,022.7 | 880.6 | 913.4 | 1,048.4 | 1,144.4 |
| Total Revenue per Employee | - | - | 59.6 | 65.7 | 60.6 | 70.0 | 79.2 | 82.4 | 104.0 | 97.9 | 123.1 | 126.1 | - |

NA Not Available

* Deflator (outlined below) not available for 1983.

NOTE: Assets deflated by the Implicit Price Index for Gross National Expenditure - Statistics Canada, National Income and Expenditure Accounts, Cat. No. 13-201
Revenue deflated by the Implicit Price Index for SIC 701, as available in Statistics Canada, Gross Domestic Product by Industry, Cat. No. 61-213.

SOURCE: As outlined in Table D.23.

TABLE D.26

INDUSTRY INDICATORS: TRUST AND LOAN COMPANIES

(CONSTANT DOLLARS PERCENT CHANGE)

| | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AGGREGATE OUTPUT - CANADA | | | | | | (PERCENT CHANGE) | | | | | | |
| Total Assets | 9.6 | 12.6 | 1.2 | 6.5 | 11.6 | 9.8 | 10.3 | 8.6 | 8.1 | 5.7 | 7.1 | 14.4 |
| Total Revenue | - | 17.0 | 12.7 | (2.6) | 25.8 | 20.5 | 13.4 | 27.3 | 18.1 | 28.1 | (4.4) | - |
| EMPLOYMENT CANADA | | | | | | | | | | | | |
| Number of Employees | - | - | 2.3 | 5.5 | 9.0 | 6.4 | 9.1 | 0.7 | 25.5 | 1.9 | (6.7) | 4.8 |
| COMPETITIVE PERFORMANCE | | | | | | | | | | | | |
| Assets per Employee | - | - | (1.1) | 0.9 | 2.4 | 3.2 | 1.2 | 7.8 | (13.9) | 3.7 | 14.8 | 9.2 |
| Total Revenue per Employee | - | - | 10.2 | (7.8) | 15.5 | 13.1 | 4.0 | 26.2 | (5.9) | 25.7 | 2.4 | - |

() Indicates decline

SOURCE: Calculated from Table D.25.

# FINAL REPORT AND APPENDICES OF THE ONTARIO TASK FORCE ON EMPLOYMENT AND NEW TECHNOLOGY

Final Report — Employment and New Technology

Appendices:

1. Labour Market Trends in Ontario, 1950-1980
2. Occupational Employment Trends in Ontario, 1971-1981
3. Emerging New Technology, 1985-95: Framework for a Survey of Firms
4. Employment and New Technology in Ontario's Manufacturing Sector: A Summary of Selected Industries
5. Employment and New Technology in the Iron and Steel Industry
6. Employment and New Technology in the Metal Fabricating Industry
7. Employment and New Technology in the Machinery and Equipment Industry
8. Employment and New Technology in the Aircraft and Aircraft Parts Industry
9. Employment and New Technology in the Communications Equipment Industry
10. Employment and New Technology in the Office, Store and Business Machine Industry
11. Employment and New Technology in the Plastic Processing Industry
12. Employment and New Technology in Ontario's Service Sector: A Summary of Selected Industries
13. Employment and New Technology in the Chartered Banks and Trust Industry
14. Employment and New Technology in the Insurance Industry
15. Employment and New Technology in the Government Services Industry
16. Employment and New Technology in the Telecommunications Industry
17. Employment and New Technology in the Retail Trade Industry
18. Employment and New Technology in the Computer Services and Management Consulting Industry
19. Industry-Sector and Occupational Employment in Ontario, 1985-1995
20. Technological Change, Productivity, and Employment: Studies of the Overall Economy